

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 18, 2004, 04:07:52 ; Search time 46 Seconds
(without alignments)
2443.187 Million cell updates/sec

Title: US-09-985-689A-1-COPY

Perfect score: 2247
Sequence: 1 NDVARGIVKADVAQSSYGLY.....EVQAYNPVGPQTSLAIN 434

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 25895339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications AA:

- 1: /cgn2_6/prodata/2/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/prodata/2/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/prodata/2/pubpaa/US05_NEW_PUB.pep.*
- 4: /cgn2_6/prodata/2/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/prodata/2/pubpaa/US07_NEW_PUB.pep.*
- 6: /cgn2_6/prodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
- 7: /cgn2_6/prodata/2/pubpaa/US08_NEW_PUB.pep.*
- 8: /cgn2_6/prodata/2/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/prodata/2/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/prodata/2/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/prodata/2/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/prodata/2/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/prodata/2/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/prodata/2/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/prodata/2/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/prodata/2/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/prodata/2/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/prodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2242	99.8	434	10	US-09-985-689A-1
2	2242	99.8	434	15	US-10-385-662-2
3	2186	97.3	434	10	US-09-985-689A-2
4	2138	95.1	434	10	US-09-985-689A-6
5	2120.5	94.4	433	10	US-09-985-689A-7
6	1993.5	88.7	433	10	US-09-985-689A-5
7	1982.5	88.5	433	10	US-09-985-689A-3
8	1982.5	88.2	433	10	US-09-985-689A-4
9	1581.5	70.4	345	14	US-10-336-324-10
10	1581.5	70.4	345	14	US-10-403-105-13
11	447.5	19.9	659	13	US-10-090-624-12
12	409	18.2	412	13	US-10-090-624-1
13	409	18.2	522	13	US-10-090-624-4
14	409	18.2	654	13	US-10-090-624-16
15	366	16.3	1079	14	US-10-112-488-39

16	363.5	16.2	1208	14	US-10-156-761-13251	Sequence 13251, A
17	348	15.5	1139	14	US-10-156-761-10856	Sequence 10856, A
18	336	15.0	1237	14	US-10-314-657-4	Sequence 4, Appli
19	306.5	13.6	519	15	US-10-084-846A-114	Sequence 114, App
20	306.5	13.6	19725	15	US-10-084-846A-4	Sequence 4, Appli
21	305.5	13.6	1398	13	US-10-090-624-6	Sequence 6, Appli
22	280.5	12.5	595	10	US-09-927-827-59	Sequence 59, Appl
23	278	12.4	580	10	US-09-927-827-55	Sequence 55, Appl
24	276	12.3	418	9	US-09-966-921A-2	Sequence 2, Appli
25	275	12.2	1101	14	US-10-156-761-12934	Sequence 12934, A
26	258	11.5	663	12	US-10-424-599-255271	Sequence 255271, A
27	251	11.2	280	14	US-10-209-813-2	Sequence 2, Appli
28	251	11.2	397	10	US-09-779-334A-5	Sequence 5, Appli
29	247.5	11.0	368	12	US-10-344-231-3	Sequence 3, Appli
30	247	11.0	271	10	US-09-813-408-2	Sequence 2, Appli
31	246.5	11.0	379	10	US-09-813-408-6	Sequence 6, Appli
32	246	10.9	271	14	US-10-242-549-56	Sequence 56, Appli
33	244	10.9	271	14	US-10-242-549-46	Sequence 46, Appli
34	244	10.9	271	14	US-10-242-549-48	Sequence 48, Appli
35	244	10.9	271	14	US-10-242-549-50	Sequence 50, Appli
36	244	10.9	271	14	US-10-242-549-52	Sequence 52, Appli
37	244	10.9	271	14	US-10-242-549-54	Sequence 54, Appli
38	244	10.9	271	14	US-10-242-549-60	Sequence 60, Appli
39	242.5	10.8	627	10	US-09-927-827-60	Sequence 60, Appli
40	242	10.8	271	14	US-10-242-549-44	Sequence 44, Appli
41	242	10.8	271	14	US-10-242-549-58	Sequence 58, Appli
42	240	10.7	269	8	US-08-332-678-10	Sequence 10, Appl
43	240	10.7	269	9	US-09-837-235-16	Sequence 16, Appl
44	240	10.7	269	9	US-09-060-854B-6	Sequence 6, Appli
45	240	10.7	269	9	US-09-975-139-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-09-985-689A-1
; Sequence 1, Application US/09985689A
; Publication No. US20030022351A1

; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SAITO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHIISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483US0
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 1
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-1

Query Match	99.8%;	Score	2242;	DB	10;	Length	434;
Best Local Similarity	99.8%;	Pred. No.	5.2e-187;				
Matches	433;	Conservative	1;	Mismatches	0;	Indels	0;
						Gaps	0;
QY	1	NDVARGIVKADVAQSSYGLYGGQIVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN	60				
Db	1	NDVARGIVKADVAQSSYGLYGGQIVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN	60				
QY	61	NANDTNGHGTHTVAGSVLNGSTNGKMAFQANLVFQSIWDSGGGLGLFSLNLTFLFSQAYS	120				

Db 61 NNDTNGHGHVAGSVLNGSTNKGMAPOANLVFQIMDSGGGLGGLPSNLQTLFSQAYS 120
 QY 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 Db 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 QY 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240
 QY 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGAADIGLGY 300
 Db 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGAADIGLGY 300
 QY 301 PNGNOGWRVTLDKSLNVAIYVNESSLSSTOKATYSFTATAGPKIKISLWSDAPASTTA 360
 Db 301 PNGNOGWRVTLDKSLNVAIYVNESSLSSTOKATYSFTATAGPKIKISLWSDAPASTTA 360
 QY 361 SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNWDGNNVNFVINAPOSQGTITIEVOAYN 420
 Db 361 SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNWDGNNVNFVINAPOSQGTITIEVOAYN 420
 QY 421 VPVGPQTFSLAIYN 434
 Db 421 VPVGPQTFSLAIYN 434

RESULT 2

US-10-385-662-2
 ; Sequence 2, Application US/10385662
 ; Publication No. US20040002432A1
 ; GENERAL INFORMATION:
 ; APPLICANT: OKUDA, MITSUYOSHI
 ; APPLICANT: SAITO, TSUYOSHI
 ; APPLICANT: SAITO, KAZUHIRO
 ; APPLICANT: SUMITOMO, NOBUYUKI
 ; APPLICANT: IZAWA, YOSHIFUMI
 ; APPLICANT: SAEKI, KATSUHISA
 ; APPLICANT: KOBAYASHI, TORU
 ; APPLICANT: NOMURA, MASAFUMI
 ; TITLE OF INVENTION: Alkaline protease
 ; FILE REFERENCE: 234938US0
 ; CURRENT APPLICATION NUMBER: US/10/385,662
 ; CURRENT FILING DATE: 2003-03-12
 ; PRIOR APPLICATION NUMBER: JP 2002-081428
 ; PRIOR FILING DATE: 2002-03-22
 ; PRIOR FILING DATE: 2002-06-06
 ; PRIOR FILING DATE: 2002-10-18
 ; PRIOR FILING DATE: 2002-10-18
 ; NUMBER OF SEQ ID NOS: 20
 ; SOFTWARE: Patent in version 3.1
 ; SEQ ID NO 2
 ; LENGTH: 434
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp. KSM-KP43
 US-10-385-662-2

Query Match 99.8%; Score 2242; DB 15; Length 434;
 Best Local Similarity 99.8%; Pred. No. 5.2e-187;
 Matches 433; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITALVALGRTN 60
 Db 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITALVALGRTN 60
 QY 61 NNDTNGHGHVAGSVLNGSTNKGMAPOANLVFQIMDSGGGLGGLPSNLQTLFSQAYS 120
 Db 61 NNDTNGHGHVAGSVLNGSTNKGMAPOANLVFQIMDSGGGLGGLPSNLQTLFSQAYS 120

QY 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 Db 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 QY 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240
 QY 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGAADIGLGY 300
 Db 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGAADIGLGY 300
 QY 301 PNGNOGWRVTLDKSLNVAIYVNESSLSSTOKATYSFTATAGPKIKISLWSDAPASTTA 360
 Db 301 PNGNOGWRVTLDKSLNVAIYVNESSLSSTOKATYSFTATAGPKIKISLWSDAPASTTA 360
 QY 361 SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNWDGNNVNFVINAPOSQGTITIEVOAYN 420
 Db 361 SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNWDGNNVNFVINAPOSQGTITIEVOAYN 420
 QY 421 VPVGPQTFSLAIYN 434
 Db 421 VPVGPQTFSLAIYN 434

RESULT 3

US-09-985-689A-2
 ; Sequence 2, Application US/09985689A
 ; Publication No. US20030022351A1
 ; GENERAL INFORMATION:
 ; APPLICANT: HATADA, YUJI
 ; APPLICANT: OGAWA, AKINORI
 ; APPLICANT: KAGEYAMA, YASUSHI
 ; APPLICANT: SATO, TSUYOSHI
 ; APPLICANT: ARAKI, HIROYUKI
 ; APPLICANT: SUMITOMO, NOBUYUKI
 ; APPLICANT: OKUDA, MITSUYOSHI
 ; APPLICANT: SAEKI, KATSUHISA
 ; TITLE OF INVENTION: Alkaline proteases
 ; FILE REFERENCE: 215483US0
 ; CURRENT APPLICATION NUMBER: US/09/985,689A
 ; CURRENT FILING DATE: 2002-07-01
 ; PRIOR APPLICATION NUMBER: JP P2000-355166
 ; PRIOR FILING DATE: 2000-11-22
 ; PRIOR APPLICATION NUMBER: JP P2001-114048
 ; PRIOR FILING DATE: 2001-04-12
 ; NUMBER OF SEQ ID NOS: 7
 ; SOFTWARE: Patent in version 3.1
 ; SEQ ID NO 2
 ; LENGTH: 434
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp.
 US-09-985-689A-2

Query Match 97.3%; Score 2186; DB 10; Length 434;
 Best Local Similarity 96.3%; Pred. No. 4e-182;
 Matches 418; Conservative 14; Mismatches 2; Indels 0; Gaps 0;
 QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITALVALGRTN 60
 Db 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITALVALGRTN 60
 QY 61 NNDTNGHGHVAGSVLNGSTNKGMAPOANLVFQIMDSGGGLGGLPSNLQTLFSQAYS 120
 Db 61 NNDTNGHGHVAGSVLNGSTNKGMAPOANLVFQIMDSGGGLGGLPSNLQTLFSQAYS 120
 QY 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 Db 121 AGARIHTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
 QY 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSRGPDKGRIPKPDVMAFGTIFLSARSSSLAPDSSF 240

```
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
Db 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
Db 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
QY 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
Db 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
QY 421 VPVGPQTFSLAIYN 434
Db 421 VPVGPQTFSLAIYN 434

RESULT 4
US-09-985-689A-6
; Sequence 6, Application US/09985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483USO
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 6
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-6

Query Match 95.1%; Score 2138; DB 10; Length 434;
Best Local Similarity 93.3%; Pred. No. 6.2e-178;
Matches 405; Conservative 20; Mismatches 9; Indels 0; Gaps 0;

QY 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
Db 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
QY 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
Db 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
Db 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
Db 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
Db 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360

Query Match 94.4%; Score 2120.5; DB 10; Length 433;
Best Local Similarity 93.3%; Pred. No. 2.1e-176;
Matches 405; Conservative 20; Mismatches 8; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
Db 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
QY 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
Db 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
Db 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
Db 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
Db 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
```

```
Db 301 PSNGQGWGRVTLDKSLNVAFVNETSLSNQNKATYSFTAQSGKPKISLWSDAPASTTA 360
QY 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
Db 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
QY 421 VPVGPQTFSLAIYN 434
Db 421 VPVGPQTFSLAIYN 434

RESULT 5
US-09-985-689A-7
; Sequence 7, Application US/09985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483USO
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 7
; LENGTH: 433
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-7

Query Match 94.4%; Score 2120.5; DB 10; Length 433;
Best Local Similarity 93.3%; Pred. No. 2.1e-176;
Matches 405; Conservative 20; Mismatches 8; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
Db 1 NDVARGIVKADVAQSSYGLYGQGOIVAVADTGLDTGRNDSMHEAFRGKITAYALGRIN 60
QY 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
Db 61 NANDTNGHGTTHVAGSVLNGSTNKGMAPOANLVFQSTMDSGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
Db 181 TVGATENLRPSFGSYADNINHAQVSSRGPTKDGRIKPDVMAFGTFTILSARSLAPDSSF 240
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
Db 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
Db 301 PNGNGGWRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPKISLWSDAPASTTA 360
QY 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
Db 361 SVTLVNDLNLVITAPNGTOYVGNDFTSFYNDNWDGNNVNFVFNAPQSGTYTIEVQAYN 420
QY 421 VPVGPQTFSLAIYN 434
```

```
Db 420 VPVSPQTFSLAIVH 433
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHIISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483USO
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 3
; TYPE: PRT
; ORGANISM: Bacillus sp.
; US-09-985-689A-3

Query Match 88.5%; Score 1989.5; DB 10; Length 433;
Best Local Similarity 87.3%; Pred. No. 5.7e-165; Indels 1; Gaps 1;
Matches 379; Conservative 29; Mismatches 25;

QY 1 NDVARGIVKADVAQSSYGLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN 60
Db 1 NDVARGIVKADVAQNNYGLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN 60
QY 61 NANDTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSSGGLGGLPSNLTLFSQAYS 120
Db 61 NANDPNGHGHVAGSVLGN-ALNKGMAPOANLVFQSIMDSSGGLGGLPSNLTLFSQAWN 119
QY 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 180
Db 120 AGARIHTNSWGAAYNGAYTANSRQVDEYVRNNDMTVLFAAGNEGPNNGTISAPGTAKNAI 179
QY 181 TVGATENLRPSFGSVADNINHVAQFSSRGPTKDGRIKPDVMAPGTFILSARSSSLAPDSF 240
Db 180 TVGATENYRPSFGSLADNPNHIAQFSSRGATRDGRIKPDVTAPGTFFILSARSSSLAPDSF 239
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKGRTIPKPSLLKAALIAGAADIGLY 300
Db 240 WANINSKYAYMGTSWATPIVAGNVAQLREHFVKGRTIPKPSLLKAALIAGATDVGLGY 299
QY 301 PNGNCGWRVTLDKSLNVAYNVNESSLSSTSQKATYSFTATAGKPLKISLVMSDAPASTTA 360
Db 300 PSGDQGWGRVTLDKSLNVAYNVNEATALTGQKATYSFQTAQKPLKISLVMTDAPGSTTA 359
QY 361 SVTLVNDLMLVITAPNGTOYVGNDFTPSYNDNWDGNNVNFVFINAPQSGTITIEVQAYN 420
Db 360 SYTLVNDLMLVITAPNGQKIVGNDPFSYDNDNWDGNNVNFVFINAPQSGTITIEVQAYN 419
QY 421 VPVGPQTFSLAIVN 434
Db 420 VPSPQRFSLAIVH 433

RESULT 8
US-09-985-689A-4
; Sequence 4, Application US/09985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI

Db 420 VPVSPQTFSLAIVH 433
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI

Query Match 88.7%; Score 1993.5; DB 10; Length 433;
Best Local Similarity 87.6%; Pred. No. 2.5e-165; Indels 1; Gaps 1;
Matches 380; Conservative 29; Mismatches 24;

QY 1 NDVARGIVKADVAQSSYGLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN 60
Db 1 NDVARGIVKADVAQNNYGLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRTN 60
QY 61 NANDTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSSGGLGGLPSNLTLFSQAYS 120
Db 61 NANDPNGHGHVAGSVLGN-ALNKGMAPOANLVFQSIMDSSGGLGGLPSNLTLFSQAWN 119
QY 121 AGARIHTNSWGAAYNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 180
Db 120 AGARIHTNSWGAAYNGAYTANSRQVDEYVRNNDMTVLFAAGNEGPNNGTISAPGTAKNAI 179
QY 181 TVGATENLRPSFGSVADNINHVAQFSSRGPTKDGRIKPDVMAPGTFILSARSSSLAPDSF 240
Db 180 TVGATENYRPSFGSLADNPNHIAQFSSRGATRDGRIKPDVTAPGTFFILSARSSSLAPDSF 239
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKGRTIPKPSLLKAALIAGAADIGLY 300
Db 240 WANINSKYAYMGTSWATPIVAGNVAQLREHFVKGRTIPKPSLLKAALIAGATDVGLGY 299
QY 301 PNGNCGWRVTLDKSLNVAYNVNESSLSSTSQKATYSFTATAGKPLKISLVMSDAPASTTA 360
Db 300 PSGDQGWGRVTLDKSLNVAYNVNEATALTGQKATYSFQTAQKPLKISLVMTDAPGSTTA 359
QY 361 SVTLVNDLMLVITAPNGTOYVGNDFTPSYNDNWDGNNVNFVFINAPQSGTITIEVQAYN 420
Db 360 SYTLVNDLMLVITAPNGQKIVGNDPFSYDNDNWDGNNVNFVFINAPQSGTITIEVQAYN 419
QY 421 VPVGPQTFSLAIVN 434
Db 420 VPSPQRFSLAIVH 433

RESULT 7
US-09-985-689A-3
; Sequence 3, Application US/09985689A
```

APPLICANT: SUMITOMO, NOBUYUKI
APPLICANT: OKUDA, MITSUYOSHI
APPLICANT: SAEKI, KATSUHIKA
TITLE OF INVENTION: Alkaline proteases
FILE REFERENCE: 215483USO
CURRENT APPLICATION NUMBER: US/09/985,689A
CURRENT FILING DATE: 2002-07-01
PRIOR APPLICATION NUMBER: JP P2000-355166
PRIOR FILING DATE: 2000-11-22
PRIOR APPLICATION NUMBER: JP P2001-114048
PRIOR FILING DATE: 2001-04-12
NUMBER OF SEQ ID NOS: 7
SOFTWARE: PatentIn version 3.1
SEQ ID NO 4
LENGTH: 433
TYPE: PRT
ORGANISM: Bacillus sp.
US-09-985-689A-4

Query Match 88.2%; Score 1982.5; DB 10; Length 433;
Best Local Similarity 87.1%; Pred. No. 2.3e-164; Mismatches 25; Indels 1; Gaps 1;
Matches 378; Conservative 30;

QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 60
Db 1 NDVARGIVKADVAQNNYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 60
QY 61 NANTNGHGTHTVAGSVLGNSTNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 120
Db 61 NASDPNGHGTHTVAGSVLGN-ALNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAWN 119
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPGGTISAPGTAKNAI 180
Db 120 AGARIHTNSGAPVNGAYTANSRQVDEYVRNNDMTILFAAGNEGPGGTISAPGTAKNAI 179
QY 181 TVGATENLRPSFGSYADNINHVAFSSRGPTKDGRIKPDVMAPGTIFLSARSLAPDSSF 240
Db 180 TVGATENYRPSFGSIADNPNHIAQFSSRGATRDGRIKPDVTAAGPTIFLSARSLAPDSSF 239
QY 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGADIGLY 300
Db 240 WANYNSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGADVGILGY 299
QY 301 PNGNQGWGRVTLDKSLNVAIVNNESSLSQTSKATYSFTATAGKPLKISLVNSDAPASTA 360
Db 300 PNGDQGWGRVTLKSLNVAIVNEATATGKATYSFOAGKPLKISLVMTDAPGSTTA 359
QY 361 SYTLVNDLNLVITAPNGTOYVGNDFTSYNDNWDGRNNVNFVINAPOSQGTIIEVQAYN 420
Db 360 SYTLVNDLNLVITAPNGQIVGNDFSPYDNDNWDGRNNVNFVINAPOSQGTIIEVQAYN 419
QY 421 VPVGPQTFSLAIVN 434
Db 420 VPSPQGRFSLAIVH 433

RESULT 9
US-10-336-324-10
Sequence 10, Application US/10336324
Publication No. US20030176304A1
GENERAL INFORMATION:
APPLICANT: Hansen, Peter
APPLICANT: Bauditz, Peter
APPLICANT: Mikkelsen, Frank
APPLICANT: Andersen, Kim
TITLE OF INVENTION: Protease Variants and Compositions
FILE REFERENCE: 5349.204-US
CURRENT APPLICATION NUMBER: US/10/336,324
CURRENT FILING DATE: 2003-01-03
PRIOR APPLICATION NUMBER: US/09/512,251A
PRIOR FILING DATE: 2000-02-24
NUMBER OF SEQ ID NOS: 12
SOFTWARE: PatentIn version 3.1

SEQ ID NO 10
LENGTH: 345
TYPE: PRT
ORGANISM: Bacillus
US-10-336-324-10

Query Match 70.4%; Score 1581.5; DB 14; Length 345;
Best Local Similarity 95.3%; Pred. No. 1.7e-129; Mismatches 4; Indels 1; Gaps 1;
Matches 303; Conservative 10;

QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 60
Db 29 NDVARGIVKADVAQNNYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 88
QY 61 NANTNGHGTHTVAGSVLGNSTNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 120
Db 89 NANTNGHGTHTVAGSVLGN-ATNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 147
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPGGTISAPGTAKNAI 180
Db 148 AGARIHTNSGAPVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPGGTISAPGTAKNAI 207
QY 181 TVGATENLRPSFGSYADNINHVAFSSRGPTKDGRIKPDVMAPGTIFLSARSLAPDSSF 240
Db 208 TVGATENLRPSFGSYADNINHVAFSSRGPTDRGRIKPDVMAPGTIFLSARSLAPDSSF 267
QY 241 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGADIGLY 300
Db 268 WANHDSKYAYMGTSMTATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAAGADVGLGF 327
QY 301 PNGNQGWGRVTLDKSLNV 318
Db 328 PNGNQGWGRVTLDKSLNV 345

RESULT 10
US-10-403-105-13
Sequence 13, Application US/10403105
Publication No. US20030180933A1
GENERAL INFORMATION:
APPLICANT: Hansen, Peter K.
APPLICANT: Bauditz, Peter
APPLICANT: Mikkelsen, Frank
TITLE OF INVENTION: Protease Variants And Compositions
FILE REFERENCE: 5435.200-US
CURRENT APPLICATION NUMBER: US/10/403,105
CURRENT FILING DATE: 2003-03-31
PRIOR APPLICATION NUMBER: US/09/196,281A
PRIOR FILING DATE: 1998-11-19
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 1332/97
PRIOR FILING DATE: EARLIER FILING DATE: 1997-11-21
NUMBER OF SEQ ID NOS: 18
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 13
LENGTH: 345
TYPE: PRT
ORGANISM: Bacillus
US-10-403-105-13

Query Match 70.4%; Score 1581.5; DB 14; Length 345;
Best Local Similarity 95.3%; Pred. No. 1.7e-129; Mismatches 4; Indels 1; Gaps 1;
Matches 303; Conservative 10;

QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 60
Db 29 NDVARGIVKADVAQNNYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 88
QY 61 NANTNGHGTHTVAGSVLGNSTNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 120
Db 89 NANTNGHGTHTVAGSVLGN-ATNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 147
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPGGTISAPGTAKNAI 180

Query Match 70.4%; Score 1581.5; DB 14; Length 345;
Best Local Similarity 95.3%; Pred. No. 1.7e-129; Mismatches 4; Indels 1; Gaps 1;
Matches 303; Conservative 10;

QY 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 60
Db 29 NDVARGIVKADVAQNNYGLYGQGIIVAVADTGLDTRNDSSMHEAFRGKITIYALGRTN 88
QY 61 NANTNGHGTHTVAGSVLGNSTNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 120
Db 89 NANTNGHGTHTVAGSVLGN-ATNKGMAPOANLVFQSIMDSGGGLGLPSNLQTLFQAYS 147
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPGGTISAPGTAKNAI 180

Db 148 AGARIHNSWGAPVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPGSGTISAPGTAKNAI 207
Qy 181 TVGATENLRPSFGSYADNINHAQFSSRGPTKGRIRKPDVMAPOFTILSARSLAPDSSF 240
Db 208 TVGATENLRPSFGSYADNINHAQFSSRGPTKGRIRKPDVMAPOFTILSARSLAPDSSF 267
Qy 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALTAGADTGLGY 300
Db 268 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALTAGADTGLGY 327
Qy 301 PNGNQGWGRVTLDSKLVN 318
Db 328 PNGNQGWGRVTLDSKLVN 345

RESULT 11
US-10-090-624-12
; Sequence 12, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:
; APPLICANT: TAKAKURA, Hikaru
; APPLICANT: MORISHITA, Mio
; APPLICANT: SHIMOJO, Tomoko
; APPLICANT: ASADA, Kiyozo
; APPLICANT: KATO, Ikunoshin
; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
; FILE REFERENCE: TAKAKURA=6
; CURRENT FILING DATE: 2002-03-06
; PRIOR APPLICATION NUMBER: 09/445,472
; PRIOR FILING DATE: 1999-12-06
; PRIOR APPLICATION NUMBER: 151969/1997
; PRIOR FILING DATE: 1997-06-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 12
; LENGTH: 659
; TYPE: PRT
; ORGANISM: Thermococcus celer
US-10-090-624-12

Query Match 19.9%; Score 447.5; DB 13; Length 659;
Best Local Similarity 29.8%; Pred. No. 4e-30;
Matches 137; Conservative 68; Mismatches 153; Indels 101; Gaps 18;

Qy 8 VKADVAQSSYGLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRNTNAN 66
Db 145 IGADTVNNSLGYDGGVVAIVDTGIDAN-----HPDLKGVIGWYDAVNGRSTPYDDQ 198
Qy 67 GHGTHVAGSVLNGSTNK---GMAPOANLVFQSIM--DSGGGLGGLPSNLQTLFSQAYSA 121
Db 199 GHGTHVAGIVAGTGVNSQYIGVAFGAKLVGVKVLGADGSSVSTIAGVDWVYVQNKDY 258
Qy 122 GARI-----HTNSGAAVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPGSGT 169
Db 259 GIRVINLSGSSQSSDGTSLSCAVNNAWDA-----GIVCVAAAGNSGPNY 306
Qy 170 ISAPGTAKNAITVGTATENLRPSFGSYADNINHAQFSSRGPTKGRIRKPDVMAPOFTILS 229
Db 307 VGSPPAAASKVITVGA-----VDSNDNIASFSSRGPTADGRLKPEVWAPGVNDILIA 355
Qy 230 ARSSLAPDSSFVANHDSKYAYMGTSMTPIVAG--NVAQLREHFVKNRGITPK--PSLLK 286
Db 356 PRAS---GTSMTGTPINDYTTAAGTSMATPHVAGIALLQ-----AHPSTPDKVKTALIE 404
Qy 287 AALIAGA-----ADIGLGPNGNQGWGRVTLDSKSL---NVAYVNESSLSSTSQAKY 335
Db 405 TALIEATADIVAPKEADIAYGA-----GRVNAVYKAIKYDDYAKLTFTGSVADKGSATH 457
Qy 336 SFTATAGKPLKSLVMSDAPASTTASVTLVNDLNLVITAPNGTQVVGNDFTSPYNDNDWGRN 395
Db 458 TFDVSGATFTATLYWD-----TGSSDIDLVLDPNGNE--VDYSYTAIY-----G 500

Qy 396 RNNVENVFINAPQSGTYTIEVQAYNVVPVGPOTFSLAIVN 434
Db 501 --GFKEKVGYNPTAGTWTWKVVSXK---GAANYQVDVVS 534

RESULT 12
US-10-090-624-1
; Sequence 1, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:
; APPLICANT: TAKAKURA, Hikaru
; APPLICANT: MORISHITA, Mio
; APPLICANT: SHIMOJO, Tomoko
; APPLICANT: ASADA, Kiyozo
; APPLICANT: KATO, Ikunoshin
; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
; FILE REFERENCE: TAKAKURA=6
; CURRENT FILING DATE: 2002-03-06
; PRIOR APPLICATION NUMBER: 09/445,472
; PRIOR FILING DATE: 1999-12-06
; PRIOR APPLICATION NUMBER: 151969/1997
; PRIOR FILING DATE: 1997-06-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 1
; LENGTH: 412
; TYPE: PRT
; ORGANISM: Pyrococcus furiosus
US-10-090-624-1

Query Match 18.2%; Score 409; DB 13; Length 412;
Best Local Similarity 29.6%; Pred. No. 4.6e-27;
Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;

Qy 18 GLYGQGVAVADTGLDTRNDSSMHEAFRGKITALYALGRNTNAN-----DTNGHGTH 71
Db 22 GYDGSGITIGIIDTGID-----ASHPDLQGV-----IGWDFVNGRSYPYDDHGHGTH 70
Qy 72 VAGSVLNGSTN-----KMAPOANLVFQSIM--DSGGGLGGLPSNLQTLFSQAYSAGARI 125
Db 71 VASIAAGTGAASNGKYKGNAPGAKLAGIKVLGADGSSGISTIIKGVWAVDNKDKYGIKV 130
Qy 126 HTNSGAA-----AVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPGSGTISAP 173
Db 131 INLSGSSQSSDGTALSOAVNAWDA-----GLVWVVAAGNSGENKTYIGSP 178
Qy 174 GTAKNAITVGTATENLRPSFGSYADNINHAQFSSRGPTKGRIRKPDVMAPOFTILSARSS 233
Db 179 AAASKVITVGA-----VDKYDVITSPSSRGPTADGRLKPEVWAPGNWIIAARAS 227
Qy 234 LAPDSSFWANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPK--PSLLKAALIA 291
Db 228 ---GTSMGTPINDYTTAAGTSMATPHVAGIALLQ-----AHPSTPDKVKTALIE 277
Qy 292 GA-----ADIGLGPNGNQGWGRVTLDSKSLNVAIVNESSLSSTSQAKY 338
Db 278 TADIVKPEDEADIAYGA-----GRVNAVYKAIN--YDNYAKLVFTGYVANKGSOHQFV 328
Qy 339 ATAGKPLKSLVMSDAPASTTASVTLVNDLNLVITAPNGTQVVGNDFTSPYNDNDWGRN 398
Db 329 ISGASFTVATLYWDNAN-----SOLDLVLDPNGNQ--VDYSYTAIY-----G 369
Qy 399 VENNVFINAPQSGTYTIEVQAYNVVPVGPOTFSLAIVN 434
Db 370 FEKVGYNPDTGTTIKVVSYS---GSANYQVDVVS 402

RESULT 13
US-10-090-624-4
; Sequence 4, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:

APPLICANT: TAKAKURA, Hikaru
APPLICANT: MORISHITA, Mio
APPLICANT: SHIMOJO, Tomoko
APPLICANT: ASADA, Kiyozo
APPLICANT: KATO, Ikunoshin
TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
FILE REFERENCE: TAKAKURA=6
CURRENT APPLICATION NUMBER: US/10/090,624
CURRENT FILING DATE: 2002-03-06
PRIOR APPLICATION NUMBER: 09/445,472
PRIOR FILING DATE: 1999-12-06
PRIOR APPLICATION NUMBER: 151969/1997
PRIOR FILING DATE: 1997-06-10
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PatentIn version 3.0
SEQ ID NO 4
LENGTH: 522
TYPE: PRT
ORGANISM: Pyrococcus furiosus
FEATURE:
NAME/KEY: misc feature
LOCATION: (428)..(428)
OTHER INFORMATION: Xaa at position 428 is Gly or Val.
US-10-090-624-4

Query Match 18.2%; Score 409; DB 13; Length 522;
Best Local Similarity 29.6%; Pred. No. 6.6e-27;
Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;
Qy 18 GLYGQGIIVAVADTGLDTRNDSSMHEAPRGKITALYALGRNTNAN-----DTNGHGTH 71
Db 22 GYDGSGITIGIDTGID-----ASHPDLOGKV-----IGWVDFVNGRSYPYDDHGHTH 70
Qy 72 VAGSVLNGSTN-----KGMAPQANLVFQSIM--DSGGGLGLPSNLQTLFSAQAYSAGARI 125
Db 71 VASIAAGTGAASNGKYKGMAPGAKLAGIKVLGADGSGSISTIIKGVEMAVDNKDKYGIKV 130
Qy 126 HTNSWGA-----AVNGAYTTDSRVDVYKNDMTILFAAGNEGNGGTISAP 173
Db 131 INSLGSSQSDGTDALSAQVNAWDA-----GLVVVVAAGNSGPNKYTIQSP 178
Qy 174 GTAKNAITVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSS 233
Db 179 AAASKVITVGA-----VDKYDVITSFSSRGPTADGRLKPEVAPGNWIIAARAS 227
Qy 234 LAPDSSFWANHDSKYAYMGTSMTATPAGVAGNAQLREHFVKNRGITPK--PSLLKAALIA 291
Db 228 ---GTSMGQPINDDYTAAPGTSMTATPAGVAGIAALLQ-----AHPSTWTPDKVKKTALIE 277
Qy 292 GA-----ADTGLGYPNGNGQWGRVTLDKSLNVAYNVNESSLSQSKA-----TYSFT 338
Db 278 TADIVKPEDEADIAVGA-----GRVNAVYKAIN--YDNYAKLVFTGYVANKGSQTHQFV 328
Qy 339 ATAGKPKLISLWSDAPASTASVTLVNDLNLVITAPNGTQVYVNDNWDGRNN 398
Db 329 ISGASFVTATLYDNDAN-----SDLDLYDPNGNQ--VDYSYTAY-----G 369
Qy 399 VENVFNAPOSGTYTIEVOAYNVPGVQTFSLAIVN 434
Db 370 FEKVGYNPTDGTWTKVVSYS---GSANYQVDVVS 402

RESULT 14
US-10-090-624-16
Sequence 16, Application US/10090624
Publication No. US20020132335A1
GENERAL INFORMATION:
APPLICANT: TAKAKURA, Hikaru
APPLICANT: MORISHITA, Mio
APPLICANT: SHIMOJO, Tomoko
APPLICANT: ASADA, Kiyozo
APPLICANT: KATO, Ikunoshin
TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE

FILE REFERENCE: TAKAKURA=6
CURRENT APPLICATION NUMBER: US/10/090,624
CURRENT FILING DATE: 2002-03-06
PRIOR APPLICATION NUMBER: 09/445,472
PRIOR FILING DATE: 1999-12-06
PRIOR APPLICATION NUMBER: 151969/1997
PRIOR FILING DATE: 1997-06-10
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PatentIn version 3.0
SEQ ID NO 16
LENGTH: 654
TYPE: PRT
ORGANISM: Pyrococcus furiosus
US-10-090-624-16
Query Match 18.2%; Score 409; DB 13; Length 654;
Best Local Similarity 29.6%; Pred. No. 9.1e-27;
Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;
Qy 18 GLYGQGIIVAVADTGLDTRNDSSMHEAPRGKITALYALGRNTNAN-----DTNGHGTH 71
Db 154 GYDGSGITIGIDTGID-----ASHPDLOGKV-----IGWVDFVNGRSYPYDDHGHTH 202
Qy 72 VAGSVLNGSTN-----KGMAPQANLVFQSIM--DSGGGLGLPSNLQTLFSAQAYSAGARI 125
Db 203 VASIAAGTGAASNGKYKGMAPGAKLAGIKVLGADGSGSISTIIKGVEMAVDNKDKYGIKV 262
Qy 126 HTNSWGA-----AVNGAYTTDSRVDVYKNDMTILFAAGNEGNGGTISAP 173
Db 263 INSLGSSQSDGTDALSAQVNAWDA-----GLVVVVAAGNSGPNKYTIQSP 310
Qy 174 GTAKNAITVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSS 233
Db 311 AAASKVITVGA-----VDKYDVITSFSSRGPTADGRLKPEVAPGNWIIAARAS 359
Qy 234 LAPDSSFWANHDSKYAYMGTSMTATPAGVAGNAQLREHFVKNRGITPK--PSLLKAALIA 291
Db 360 ---GTSMGQPINDDYTAAPGTSMTATPAGVAGIAALLQ-----AHPSTWTPDKVKKTALIE 409
Qy 292 GA-----ADTGLGYPNGNGQWGRVTLDKSLNVAYNVNESSLSQSKA-----TYSFT 338
Db 410 TADIVKPEDEADIAVGA-----GRVNAVYKAIN--YDNYAKLVFTGYVANKGSQTHQFV 460
Qy 339 ATAGKPKLISLWSDAPASTASVTLVNDLNLVITAPNGTQVYVNDNWDGRNN 398
Db 461 ISGASFVTATLYDNDAN-----SDLDLYDPNGNQ--VDYSYTAY-----G 501
Qy 399 VENVFNAPOSGTYTIEVOAYNVPGVQTFSLAIVN 434
Db 502 FEKVGYNPTDGTWTKVVSYS---GSANYQVDVVS 534

RESULT 15
US-10-112-488-39
Sequence 39, Application US/10112488
Publication No. US20030082746A1
GENERAL INFORMATION:
APPLICANT: KIKUCHI, Yoshiaki
APPLICANT: DATE, Masayo
APPLICANT: UMEZAWA, Yukiko
APPLICANT: YOKOYAMA, Keiichi
APPLICANT: MATSUI, Hiroshi
TITLE OF INVENTION: PROCESS FOR PRODUCING TRANSGLUTAMINASE
FILE REFERENCE: 219286JUSOCNT
CURRENT APPLICATION NUMBER: US/10/112,488
CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: PCT/JP00/06780
PRIOR FILING DATE: 2000-09-29
PRIOR APPLICATION NUMBER: JP2000-280098
PRIOR FILING DATE: 2000-06-28
PRIOR APPLICATION NUMBER: JP11-280098
PRIOR FILING DATE: 1999-09-30
NUMBER OF SEQ ID NOS: 70

```
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 39
; LENGTH: 1079
; TYPE: PRT
; ORGANISM: Streptomyces albobogrieseolus
US-10-112-488-39

Query Match      16.3% Score 366; DB 14; Length 1079;
Best Local Similarity 21.6%; Pred No. 1.1e-22;
Matches 148; Conservative 55; Mismatches 175; Indels 90; Gaps 20;

QY 3 VAR---GIVKADVAQS-----SYGLYQGGIIVAVADTGLDTRNDSSMHEAFRG 48
Db 160 VARWLDGVRKASLDTSVGQIGTPKAWEGYDGKGVKIAVLDTGVD-----ATHPDLKG 213
QY 49 KITALYALGRTNANDINGHGTGVAGSVLNGS-----TNKGMAPOANLVFQSIMDSGGEL 104
Db 214 QVTASKNFTSAPTTGDDVVGHGTHVASIAAGTGAQSKGTYGAVPGAKILINGKVLDDAG-- 271
QY 105 GGLPSNLQTLFSCAYSAGARIHTNSMGAAYNGAYTTDSRNVDYVRK--NDMTILF--AA 160
Db 272 FGDDSGILAGMEWAAQAQADIVNMSLG---GMDTPETDELEAAVDKLSAEKGILFAIAA 327
QY 161 GNEGPNCGTISAPGTAKNAITVGATENLRPSFGSYADNINHVAFQFSRGP-TKDGRIKPD 219
Db 328 GNEGFPQ--SIGSPGSADSALTVGA-----VDDKDKLADFSTGPRLGDGAVKPD 374
QY 220 VMAPGTFLSARSSLAPDSSFANHDSKIAYMGCTSMATPIVAGNVAQLREHFVKRGIT 279
Db 375 LTAPGVDTITAAKGNIDIAKEVGKPKAGYMTISGTSNATPHVAGAAALLKQHPH----- 429
QY 280 PKPSLLKALLAGAADICLG-YPNGNQGWGRVTLDKSLNVAYVNESSIS----- 328
Db 430 WKYAEKLGALTASTKD---GKYTFEQGSGRVQVDKAITQTVIAEPVSLSGVQQWPHAD 486
QY 329 ---TSQKATYSFTATAGKPLKISLWSD-----APAS--TTASVTLVNDLNLVITAP-NG 377
Db 487 DKPVTKKLTIRNLGTEDVTLKLTATGPKGKAAPAGFFILGASTL-----TVPANG 538
QY 378 TQYVGNDFTSYNDNDWGRNNVNFVINAPOS-----GTYTIEVOAYNV 421
Db 539 TASVDVTADTRLGGAVDGTYSAYYVATGAGQSVRTAAAVEREVESYNV 586
```

Search completed: March 18, 2004, 04:12:40
Job time : 47 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: March 18, 2004, 04:07:52 ; Search time 46 Seconds
(without alignments)
2443.187 Million cell updates/sec

Title: US-09-985-689A-1-COPY

Perfect score: 2247
Sequence: 1 NDVARGIVKADVAGSSGLY.....EVQAYNVPGTPTSLAIWN 434

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 25895339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:

- 1: /cgn2_6/prodata/2/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/prodata/2/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/prodata/2/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/prodata/2/pubpaa/US06_PUBCOMB.pep.*
- 5: /cgn2_6/prodata/2/pubpaa/US07_NEW_PUB.pep.*
- 6: /cgn2_6/prodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
- 7: /cgn2_6/prodata/2/pubpaa/US08_NEW_PUB.pep.*
- 8: /cgn2_6/prodata/2/pubpaa/US08_PUBCOMB.pep.*
- 9: /cgn2_6/prodata/2/pubpaa/US09A_PUBCOMB.pep.*
- 10: /cgn2_6/prodata/2/pubpaa/US09B_PUBCOMB.pep.*
- 11: /cgn2_6/prodata/2/pubpaa/US09C_PUBCOMB.pep.*
- 12: /cgn2_6/prodata/2/pubpaa/US09_NEW_PUB.pep.*
- 13: /cgn2_6/prodata/2/pubpaa/US10A_PUBCOMB.pep.*
- 14: /cgn2_6/prodata/2/pubpaa/US10B_PUBCOMB.pep.*
- 15: /cgn2_6/prodata/2/pubpaa/US10C_PUBCOMB.pep.*
- 16: /cgn2_6/prodata/2/pubpaa/US10_NEW_PUB.pep.*
- 17: /cgn2_6/prodata/2/pubpaa/US60_NEW_PUB.pep.*
- 18: /cgn2_6/prodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Score	Length	DB ID	Description
1	2242	99.8	434	10	US-09-985-689A-1
2	2242	99.8	434	15	US-10-385-662-2
3	2186	97.3	434	10	US-09-985-689A-2
4	2138	95.1	434	10	US-09-985-689A-6
5	2120.5	94.4	433	10	US-09-985-689A-7
6	1993.5	88.7	433	10	US-09-985-689A-5
7	1989.5	88.2	433	10	US-09-985-689A-3
8	1982.5	88.2	433	10	US-09-985-689A-4
9	1581.5	70.4	345	14	US-10-336-324-10
10	1581.5	70.4	345	14	US-10-403-105-13
11	447.5	19.9	659	13	US-10-090-624-12
12	409	18.2	412	13	US-10-090-624-1
13	409	18.2	522	13	US-10-090-624-4
14	409	18.2	654	13	US-10-090-624-16
15	366	16.3	1079	14	US-10-112-488-39

16	363.5	16.2	1208	14	US-10-156-761-13251	Sequence 13251, A
17	348	15.5	1139	14	US-10-156-761-10856	Sequence 10856, A
18	336	15.0	1237	14	US-10-314-657-4	Sequence 4, Appli
19	306.5	13.6	519	15	US-10-084-846A-114	Sequence 114, App
20	306.5	13.6	19725	15	US-10-084-846A-4	Sequence 4, Appli
21	305.5	13.6	1398	13	US-10-090-624-6	Sequence 6, Appli
22	280.5	12.5	595	10	US-09-927-827-59	Sequence 59, Appli
23	278	12.4	580	10	US-09-927-827-55	Sequence 55, Appli
24	276	12.3	418	9	US-09-966-921A-2	Sequence 2, Appli
25	275	12.2	1101	14	US-10-156-761-12934	Sequence 12934, A
26	258	11.5	663	12	US-10-424-599-255271	Sequence 255271, A
27	251	11.2	280	14	US-10-209-812-2	Sequence 2, Appli
28	251	11.2	397	10	US-09-779-334A-5	Sequence 5, Appli
29	247.5	11.0	368	12	US-10-344-231-3	Sequence 3, Appli
30	247	11.0	271	10	US-09-813-408-2	Sequence 2, Appli
31	246.5	11.0	379	10	US-09-813-408-6	Sequence 6, Appli
32	246	10.9	271	14	US-10-242-549-56	Sequence 56, Appli
33	244	10.9	271	14	US-10-242-549-46	Sequence 46, Appli
34	244	10.9	271	14	US-10-242-549-48	Sequence 48, Appli
35	244	10.9	271	14	US-10-242-549-50	Sequence 50, Appli
36	244	10.9	271	14	US-10-242-549-52	Sequence 52, Appli
37	244	10.9	271	14	US-10-242-549-54	Sequence 54, Appli
38	244	10.9	271	14	US-10-242-549-60	Sequence 60, Appli
39	242.5	10.8	627	10	US-09-927-827-60	Sequence 60, Appli
40	242	10.8	271	14	US-10-242-549-44	Sequence 44, Appli
41	242	10.8	271	14	US-10-242-549-58	Sequence 58, Appli
42	240	10.7	269	8	US-08-322-678-10	Sequence 10, Appli
43	240	10.7	269	9	US-09-837-235-16	Sequence 16, Appli
44	240	10.7	269	9	US-09-060-854B-6	Sequence 6, Appli
45	240	10.7	269	9	US-09-975-139-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1

US-09-985-689A-1
; Sequence 1, Application US/09985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OKAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHIKA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483USO
; CURRENT APPLICATION NUMBER: US/09/985.689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 1
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-1

Query Match	99.8%	Score	2242	DB	10	Length	434
Best Local Similarity	99.8%	Pred. No.	5.2e-187				
Matches	433	Conservative	1	Mismatches	0	Indels	0
						Gaps	0
Qy	1	NDVARGIVKADVAGSSGLYGGQIVAVADTGLTGRNDSSMHEAFRGKITALVALGRTN	60				
Db	1	NDVARGIVKADVAGSSGLYGGQIVAVADTGLTGRNDSSMHEAFRGKITALVALGRTN	60				
Qy	61	NANDTNGHGTGVAGSVLGNSTNKGMAPQANLVFQSIMDSGGJGGILPSNLQTLFQAYS	120				

```

Db      61  NNDTNGHGTAVAGSVLGNSTNKGMAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
QY      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240
Db      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240
QY      241  WANHDSKYAYMGTSWATPIVAGNVAQIREHFVKRGITPKPSLLKAALIAAGADIGLY 300
Db      241  WANHDSKYAYMGTSWATPIVAGNVAQIREHFVKRGITPKPSLLKAALIAAGADIGLY 300
QY      301  PNGNQGWGRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPLKISLVWSDAPASTTA 360
Db      301  PNGNQGWGRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPLKISLVWSDAPASTTA 360
QY      361  SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNDGNNVNFVINAPOSQGTITIEVQAYN 420
Db      361  SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNDGNNVNFVINAPOSQGTITIEVQAYN 420
QY      421  VPVGPQTFSIAVN 434
Db      421  VPVGPQTFSIAVN 434

```

RESULT 2

```

US-10-385-662-2
; Sequence 2, Application US/10385662
; Publication No. US20040002432A1
; GENERAL INFORMATION:
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAITO, TSUYOSHI
; APPLICANT: SAITO, KAZUHIRO
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: IZAWA, YOSHIFUMI
; APPLICANT: SAEKI, KATSUHISA
; APPLICANT: KOBAYASHI, TOHRU
; APPLICANT: NOMURA, MASAFUMI
; TITLE OF INVENTION: Alkaline protease
; FILE REFERENCE: 234938050
; CURRENT APPLICATION NUMBER: US/10/385,662
; PRIOR FILING DATE: 2003-03-12
; PRIOR APPLICATION NUMBER: JP 2002-081428
; PRIOR FILING DATE: 2002-03-22
; PRIOR APPLICATION NUMBER: JP 2002-165987
; PRIOR FILING DATE: 2002-06-06
; PRIOR APPLICATION NUMBER: JP 2002-304230
; PRIOR FILING DATE: 2002-10-18
; PRIOR APPLICATION NUMBER: JP 2002-304231
; PRIOR FILING DATE: 2002-10-18
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 2
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp. KSM-KP43
US-10-385-662-2

```

```

Query Match      99.8%; Score 2242; DB 15; Length 434;
Best Local Similarity 99.8%; Pred. No. 5.2e-187;
Matches 433; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY      1  NDVARGIVKADVAQSSYGLYGQCGIIVAVADTGLDGTGRNDSMHEAFRGKITALYALGRTN 60
Db      1  NDVARGIVKADVAQSSYGLYGQCGIIVAVADTGLDGTGRNDSMHEAFRGKITALYALGRTN 60
QY      61  NNDTNGHGTAVAGSVLGNSTNKGMAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
Db      61  NNDTNGHGTAVAGSVLGNSTNKGMAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120

```

```

QY      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240
Db      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240
QY      241  WANHDSKYAYMGTSWATPIVAGNVAQIREHFVKRGITPKPSLLKAALIAAGADIGLY 300
Db      241  WANHDSKYAYMGTSWATPIVAGNVAQIREHFVKRGITPKPSLLKAALIAAGADIGLY 300
QY      301  PNGNQGWGRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPLKISLVWSDAPASTTA 360
Db      301  PNGNQGWGRVTLDKSLNVAYNNESSLSSTSQATYSFTATAGKPLKISLVWSDAPASTTA 360
QY      361  SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNDGNNVNFVINAPOSQGTITIEVQAYN 420
Db      361  SVTLVNDLNLVITAPNGTQYVGNDFTSYNDNDGNNVNFVINAPOSQGTITIEVQAYN 420
QY      421  VPVGPQTFSIAVN 434
Db      421  VPVGPQTFSIAVN 434

```

RESULT 3

```

US-09-985-689A-2
; Sequence 2, Application US/09985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: KAKEDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483US0
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 2
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-2

```

```

Query Match      97.3%; Score 2186; DB 10; Length 434;
Best Local Similarity 96.3%; Pred. No. 4e-182;
Matches 418; Conservative 14; Mismatches 2; Indels 0; Gaps 0;

```

```

QY      1  NDVARGIVKADVAQSSYGLYGQCGIIVAVADTGLDGTGRNDSMHEAFRGKITALYALGRTN 60
Db      1  NDVARGIVKADVAQSSYGLYGQCGIIVAVADTGLDGTGRNDSMHEAFRGKITALYALGRTN 60
QY      61  NNDTNGHGTAVAGSVLGNSTNKGMAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
Db      61  NNDTNGHGTAVAGSVLGNSTNKGMAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
QY      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
Db      121  AGARIHTNSWGAANVNGAYTTDSRNVDVYRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240
Db      181  TVGATENLRPSPGSGYADNINHVAFQSSRGPTKDGRIKPDVMAFGTIFILSARSSLPDSSF 240

```

QY 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNQGWGRVTLDKSLNVAYNNESSLSLTSQKATYSFTATAGKPLKISLWSDAPASTTA 360
DB 301 PNGNQGWGRVTLDKSLNVAYNNESSLSLTSQKATYSFTATAGKPLKISLWSDAPASTTA 360
QY 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
QY 421 VPVGQPTFSLAIVN 434
DB 421 VPVGQPTFSLAIVN 434

RESULT 4

US-09-985-689A-6

/ Sequence 6, Application US/09985689A
/ Publication No. US20030022351A1
/ GENERAL INFORMATION:
/ APPLICANT: HATADA, YUJI
/ APPLICANT: OGAWA, AKINORI
/ APPLICANT: KAGEYAMA, YASUSHI
/ APPLICANT: SATO, TSUYOSHI
/ APPLICANT: ARAKI, HIROYUKI
/ APPLICANT: SUMITOMO, NOBUYUKI
/ APPLICANT: OKUDA, MITSUYOSHI
/ APPLICANT: SAEKI, KATSUHIISA
/ TITLE OF INVENTION: Alkaline proteases
/ FILE REFERENCE: 215483US0
/ CURRENT APPLICATION NUMBER: US/09/985,689A
/ CURRENT FILING DATE: 2002-07-01
/ PRIOR APPLICATION NUMBER: JP P2000-355166
/ PRIOR FILING DATE: 2000-11-22
/ PRIOR APPLICATION NUMBER: JP P2001-114048
/ PRIOR FILING DATE: 2001-04-12
/ NUMBER OF SEQ ID NOS: 7
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 6
/ LENGTH: 434
/ TYPE: PRT
/ ORGANISM: Bacillus sp.
US-09-985-689A-6

Query Match 95.1%; Score 2138; DB 10; Length 434;
Best Local Similarity 93.3%; Pred. No. 6.2e-178;
Matches 405; Conservative 20; Mismatches 9; Indels 0; Gaps 0;

QY 1 NDVARGIVKADVAQSSYGLYGQOQIVAVADTGLDGTGRNDSMHEAFRGKITAIYALGRIN 60
DB 1 NDVARGIVKADVAQSSYGLYGQOQIVAVADTGLDGTGRNDSMHEAFRGKITAIYALGRIN 60
QY 61 NANDTNGHGHGTHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
DB 61 NANDPNGHGHGTHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHTNSWGAAYNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 180
DB 121 AGARIHTNSWGAAYNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSLAPDSF 240
DB 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSLAPDSF 240
QY 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNQGWGRVTLDKSLNVAYNNESSLSLTSQKATYSFTATAGKPLKISLWSDAPASTTA 360
DB 301 PNGNQGWGRVTLDKSLNVAYNNESSLSLTSQKATYSFTATAGKPLKISLWSDAPASTTA 360

DB 301 PSNQGWGRVTLDKSLNVAFVNMTSLSLTSQKATYSFTAQSGKPLKISLWSDAPASTTA 360
QY 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
QY 421 VPVGQPTFSLAIVN 434
DB 421 VPVGQPTFSLAIVN 434

RESULT 5

US-09-985-689A-7

/ Sequence 7, Application US/09985689A
/ Publication No. US20030022351A1
/ GENERAL INFORMATION:
/ APPLICANT: HATADA, YUJI
/ APPLICANT: OGAWA, AKINORI
/ APPLICANT: KAGEYAMA, YASUSHI
/ APPLICANT: SATO, TSUYOSHI
/ APPLICANT: ARAKI, HIROYUKI
/ APPLICANT: SUMITOMO, NOBUYUKI
/ APPLICANT: OKUDA, MITSUYOSHI
/ APPLICANT: SAEKI, KATSUHIISA
/ TITLE OF INVENTION: Alkaline proteases
/ FILE REFERENCE: 215483US0
/ CURRENT APPLICATION NUMBER: US/09/985,689A
/ CURRENT FILING DATE: 2002-07-01
/ PRIOR APPLICATION NUMBER: JP P2000-355166
/ PRIOR FILING DATE: 2000-11-22
/ PRIOR APPLICATION NUMBER: JP P2001-114048
/ PRIOR FILING DATE: 2001-04-12
/ NUMBER OF SEQ ID NOS: 7
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 7
/ LENGTH: 433
/ TYPE: PRT
/ ORGANISM: Bacillus sp.
US-09-985-689A-7

Query Match 94.4%; Score 2120.5; DB 10; Length 433;
Best Local Similarity 93.3%; Pred. No. 2.1e-176;
Matches 405; Conservative 20; Mismatches 8; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQOQIVAVADTGLDGTGRNDSMHEAFRGKITAIYALGRIN 60
DB 1 NDVARGIVKADVAQSSYGLYGQOQIVAVADTGLDGTGRNDSMHEAFRGKITAIYALGRIN 60
QY 61 NANDTNGHGHGTHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
DB 61 NANDPNGHGHGTHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 119
QY 121 AGARIHTNSWGAAYNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 180
DB 121 AGARIHTNSWGAAYNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPNNGTISAPGTAKNAI 179
QY 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSLAPDSF 240
DB 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGTIFLSARSLAPDSF 239
QY 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSNATPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 299
QY 301 PNGNQGWGRVTLDKSLNVAYNNESSLSLTSQKATYSFTATAGKPLKISLWSDAPASTTA 360
DB 301 PNGNQGWGRVTLDKSLNVAFVNMTSLSLTSQKATYSFTAQSGKPLKISLWSDAPASTTA 359
QY 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLNLVITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 419
QY 421 VPVGQPTFSLAIVN 434


```
; APPLICANT: SUMITOMO, NOBUYUKI
; APPLICANT: OKUDA, MITSUYOSHI
; APPLICANT: SAEKI, KATSUHIISA
; TITLE OF INVENTION: Alkaline proteases
; CURRENT APPLICATION NUMBER: US/09/985,699A
; PRIOR FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 4
; LENGTH: 433
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-4

Query Match      88.2%; Score 1982.5; DB 10; Length 433;
Best Local Similarity 87.1%; Pred. No. 2.3e-164;
Matches 378; Conservative 30; Mismatches 25; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 60
Db 1 NDVARGIVKADVAQNNYGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 60
QY 61 NANTDNGHGHVAGSVLNGSTNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAYS 120
Db 61 NASDPNGHGHVAGSVLNG-ALNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAWN 119
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNGTISAPGTAKNAI 180
Db 120 AGARIHTNSGAPVNGAYTANSQVYVRNNDMTILFAAGNEGPNGTISAPGTAKNAI 179
QY 181 TVGATENLRPSFGSYADNINHVAFSSRGPTKDGRIKPDVWAPGTFILSARSSLPDSSF 240
Db 180 TVGATENYRPSFGSIADNPHIAQFSRGATDGRIGKPDVWAPGTFILSARSSLPDSSF 239
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGIPTKPSLLKAALIAGAADIIGLY 300
Db 240 WANYNSKYAYMGTSWATPIVAGNVAQLREHFVKNRGIPTKPSLLKAALIAGATDVGLGY 299
QY 301 PNGNQGWGRVTLDKSLNVAVVNSSLSSTQKATYSFTATACKPLKISLVNSDAPASTA 360
Db 300 PNGQGWGRVTLNKSINVAIVNERTALATQKATYSFQQAQKPLKISLVNWDAPGSTA 359
QY 361 SVTLVNDLNLVITAPNGTQVGNDFTSFYNDNWDGNNYVFINAPQSGTYTIEVQAYN 420
Db 360 SYTLVNDLNLVITAPNGQKVGNDFSYPYDNNWDGNNYVFINAPQSGTYTIEVQAYN 419
QY 421 VPVGPOTFSLAIVN 434
Db 420 VPSGPQRFSLAIVH 433

RESULT 9
US-10-336-324-10
; Sequence 10, Application US/10336324
; Publication No. US20030176304A1
; GENERAL INFORMATION:
; APPLICANT: Hansen, Peter
; APPLICANT: Bauditz, Peter
; APPLICANT: Mikkelsen, Frank
; TITLE OF INVENTION: Protease Variants and Compositions
; FILE REFERENCE: 5349.204-US
; CURRENT APPLICATION NUMBER: US/09/512,251A
; PRIOR FILING DATE: 2000-02-24
; PRIOR APPLICATION NUMBER: US/09/512,251A
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: Patent in version 3.1
```

```
; SEQ ID NO 10
; LENGTH: 345
; TYPE: PRT
; ORGANISM: Bacillus
US-10-336-324-10

Query Match      70.4%; Score 1581.5; DB 14; Length 345;
Best Local Similarity 95.3%; Pred. No. 1.7e-129;
Matches 303; Conservative 10; Mismatches 4; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 60
Db 29 NDVARGIVKADVAQNFGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 88
QY 61 NANTDNGHGHVAGSVLNGSTNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAYS 120
Db 89 NANTDNGHGHVAGSVLGN-ATNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAYS 147
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNGTISAPGTAKNAI 180
Db 148 AGARIHTNSGAPVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNGTISAPGTAKNAI 207
QY 181 TVGATENLRPSFGSYADNINHVAFSSRGPTKDGRIKPDVWAPGTFILSARSSLPDSSF 240
Db 208 TVGATENLRPSFGSYADNINHVAFSSRGPTKDGRIKPDVWAPGTFILSARSSLPDSSF 267
QY 241 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGIPTKPSLLKAALIAGAADIIGLY 300
Db 268 WANHDSKYAYMGTSWATPIVAGNVAQLREHFVKNRGIPTKPSLLKAALIAGAADIIGLY 327
QY 301 PNGNQGWGRVTLDKSLNV 318
Db 328 PNGNQGWGRVTLDKSLNV 345

RESULT 10
US-10-403-105-13
; Sequence 13, Application US/10403105
; Publication No. US20030180933A1
; GENERAL INFORMATION:
; APPLICANT: Hansen, Peter K.
; APPLICANT: Bauditz, Peter
; APPLICANT: Mikkelsen, Frank
; TITLE OF INVENTION: Protease Variants and Compositions
; FILE REFERENCE: 5435.200-US
; CURRENT APPLICATION NUMBER: US/10/403,105
; CURRENT FILING DATE: 2003-03-31
; PRIOR APPLICATION NUMBER: US/09/196,281A
; PRIOR FILING DATE: 1998-11-19
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: 1332/97
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-11-21
; NUMBER OF SEQ ID NOS: 18
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 13
; LENGTH: 345
; TYPE: PRT
; ORGANISM: Bacillus
US-10-403-105-13

Query Match      70.4%; Score 1581.5; DB 14; Length 345;
Best Local Similarity 95.3%; Pred. No. 1.7e-129;
Matches 303; Conservative 10; Mismatches 4; Indels 1; Gaps 1;

QY 1 NDVARGIVKADVAQSSYGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 60
Db 29 NDVARGIVKADVAQNFGLYGQGVAVADTGLDTCGRNDSMHEAFRGKITALYALGRTN 88
QY 61 NANTDNGHGHVAGSVLNGSTNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAYS 120
Db 89 NANTDNGHGHVAGSVLGN-ATNKGWAPQANLVFQSIMDSGGGLGGLPSNLTLPFSQAYS 147
QY 121 AGARIHTNSGAAVNGAYTTDSRNVDYVRKNDMTILFAAGNEGPNGTISAPGTAKNAI 180
```

Db 148 AGARIHTNSWGAPVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGPGSGTISAPGTAKNAI 207
Qy 181 TVGATENLRPSFGSYADNINHVAQFSRGTGDKRIKPDVMAPTGTLGARSLLAPDSSF 240
Db 208 TVGATENLRPSFGSYADNINHVAQFSRGTGDKRIKPDVMAPTGTLGARSLLAPDSSF 267
Qy 241 WANHDSKYAYMGTSMTATPIVAGNVAQLRHFVKNRGITPKPSLLKAALIAAGADIGLY 300
Db 268 WANHDSKYAYMGTSMTATPIVAGNVAQLRHFVKNRGITPKPSLLKAALIAAGADVGLGF 327
Qy 301 PNGNQGRVTLDKSLNV 318
Db 328 PNGNQGRVTLDKSLNV 345
RESULT 11
US-10-090-624-12
; Sequence 12, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:
; APPLICANT: TAKAKURA, Hikaru
; APPLICANT: MORISHITA, Mio
; APPLICANT: SHIMOJO, Tomoko
; APPLICANT: ASADA, Kiyozo
; APPLICANT: KATO, Ikunoshin
; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
; FILE REFERENCE: TAKAKURA-6
; CURRENT APPLICATION NUMBER: US/10/090,624
; PRIOR FILING DATE: 2002-03-06
; PRIOR APPLICATION NUMBER: 09/445,472
; PRIOR FILING DATE: 1999-12-06
; PRIOR APPLICATION NUMBER: 151969/1997
; PRIOR FILING DATE: 1997-06-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 12
; LENGTH: 659
; TYPE: PRT
; ORGANISM: Thermococcus celer
US-10-090-624-12
Query Match 19.9%; Score 447.5; DB 13; Length 659;
Best Local Similarity 29.8%; Pred. No. 4e-30;
Matches 137; Conservative 68; Mismatches 153; Indels 101; Gaps 18;
Qy 8 VKADVAQSSGLYGGQGVAVADTGLDTRNDSSMHEAFRGKITALLY-ALGRNTNANDTN 66
Db 145 IGATVNSLGYDGSVVVAIVDTGIDAN-----HPDLKKGIVGWDAVNGRSTPDDQ 138
Qy 67 GHGTHVAGSVLNGSTNK---GMAPQANLVFQSIM--DSGGGLGLPSNLQTLFSQAYS 121
Db 199 GHGTHVAGIVAGTGSVNSQYIGVAPGAKLVGVKVLGADGSGSVSTIIAGVDVWVQNKDKY 258
Qy 122 GARI-----HTNSGAAVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGNGGT 169
Db 259 GIRVINLSGSSQSDGTDLSQAVNNAWDA-----GIVVCAAGSGPNYIT 306
Qy 170 ISAPOTAKNAITVGATENLRPSFGSYADNINHVAQFSRGTGDKRIKPDVMAPTGTL 229
Db 307 VGSPPAAASKVITVGA-----VDSNDNIASFSSRGPTADGRLKPEVVPAGVDIIA 355
Qy 230 ARSLLAPDSSFWANHDSKYAYMGTSMTATPIVAG-NVAQLRHFVKNRGITPK--PSLLK 286
Db 356 PRAS---GTSMGTPINDYITKASGTSMTATPHVSGVGLIIOAH-----PSWTPDKVK 404
Qy 287 AALIAGA-----ADIGLYPNGNQGRVTLDKSL---NVAYVNESSLSSTSKATY 335
Db 405 TALIIETADIVAPKEIADIAIGA-----GRVNVYKAIKYDDYAKLTFTGSVADKGSATH 457
Qy 336 SFTATAGPLKISLWSDAPASTTASVTLVNDLNLVITAPNGTQYVGNDFTPSPYNDWDG 395
Db 458 TFDVSGATFVTATLYWD-----TGSSDIDLILYDPNGNE-VDYSYTAYI----- 500

Qy 396 RNNVENVFINAPQSGTYTIEVOAYNVFVPGPQTFSLAIVN 434
Db 501 --GFEKVGYYNPAGTGTWTKVVSYK---GAANYQVDVVS 534
RESULT 12
US-10-090-624-1
; Sequence 1, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:
; APPLICANT: TAKAKURA, Hikaru
; APPLICANT: MORISHITA, Mio
; APPLICANT: SHIMOJO, Tomoko
; APPLICANT: ASADA, Kiyozo
; APPLICANT: KATO, Ikunoshin
; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
; FILE REFERENCE: TAKAKURA-6
; CURRENT APPLICATION NUMBER: US/10/090,624
; PRIOR FILING DATE: 2002-03-06
; PRIOR APPLICATION NUMBER: 09/445,472
; PRIOR FILING DATE: 1999-12-06
; PRIOR APPLICATION NUMBER: 151969/1997
; PRIOR FILING DATE: 1997-06-10
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: Patent in version 3.0
; SEQ ID NO 1
; LENGTH: 412
; TYPE: PRT
; ORGANISM: Pyrococcus furiosus
US-10-090-624-1
Query Match 18.2%; Score 409; DB 13; Length 412;
Best Local Similarity 29.6%; Pred. No. 4.6e-27;
Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;
Qy 18 GLYGGQGVAVADTGLDTRNDSSMHEAFRGKITALLYALGRTNNAN-----DTNGHCTH 71
Db 22 GYDGGITIGITIDTGD-----ASHPDLQKK-----IGWDFVNGRSYPYDDHGHGTH 70
Qy 72 VAGSVLNGSTN---KGMAPQANLVFQSIM--DSGGGLGLPSNLQTLFSQAYSAGARI 125
Db 71 VASIAAGTGAASNGKYKGMVAPGAKLVGLGADGSGSISITIKGVWAVDNKDKYGIK 130
Qy 126 HTNSGA-----AVNGAYTTDSNRVDDYVRKNDMTILFAAGNEGNGTISAP 173
Db 131 INLSLGSQSSDGTDLASQAVNNAWDA-----GLVVVAAAGSGPNKYITGSP 178
Qy 174 GTAKNAITVGATENLRPSFGSYADNINHVAQFSRGTGDKRIKPDVMAPTGTLFSARSS 233
Db 179 AAASKVITVGA-----VDKYDVITFSRSGPTADGRLKPEVVPAGVPAWIIAARAS 227
Qy 234 LAPDSSFWANHDSKYAYMGTSMTATPIVAGNVAQLRHFVKNRGITPK--PSLLKAALIA 291
Db 228 --GTSMGQPINDDYTAAPGTSMATPHVAGIAALLQ-----AHPSTWTPDKVKTALIE 277
Qy 292 GA-----ADIGLYPNGNQGRVTLDKSLNVAYVNESSLSSTSKA-----TYSFT 338
Db 278 TADIVKPEIADIAIGA-----GRVNAVYKAIN--YDNYAKLVFTGVVANKGSGTHQFV 328
Qy 339 ATAGPLKISLWSDAPASTTASVTLVNDLNLVITAPNGTQYVGNDFTPSPYNDWDGNN 398
Db 329 ISGASFVTATLYWDNAN-----SDLDLILYDPNGNQ-VDYSYTAYI-----G 369
Qy 399 VENNVFINAPQSGTYTIEVOAYNVFVPGPQTFSLAIVN 434
Db 370 FEKVGYYNPAGTGTWTKVVSYS---GSANYQVDVVS 402
RESULT 13
US-10-090-624-4
; Sequence 4, Application US/10090624
; Publication No. US20020132335A1
; GENERAL INFORMATION:

; APPLICANT: TAKAKURA, Hikaru
 ; APPLICANT: MORISHITA, Mio
 ; APPLICANT: SHIMOJO, Tomoko
 ; APPLICANT: ASADA, Kiyozo
 ; APPLICANT: KATO, Ikunoshin
 ; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
 ; FILE REFERENCE: TAKAKURA=6
 ; CURRENT APPLICATION NUMBER: US/10/090,624
 ; CURRENT FILING DATE: 2002-03-06
 ; PRIOR APPLICATION NUMBER: 09/445,472
 ; PRIOR FILING DATE: 1999-12-06
 ; PRIOR APPLICATION NUMBER: 151969/1997
 ; PRIOR FILING DATE: 1997-06-10
 ; NUMBER OF SEQ ID NOS: 33
 ; SOFTWARE: Patent in version 3.0
 ; SEQ ID NO 4
 ; LENGTH: 522
 ; TYPE: PRT
 ; ORGANISM: Pyrococcus furiosus
 ; FEATURE:
 ; NAME/KEY: misc feature
 ; LOCATION: (428)..(428)
 ; OTHER INFORMATION: Xaa at position 428 is Gly or Val.
 US-10-090-624-4

Query Match 18.2%; Score 409; DB 13; Length 522;
 Best Local Similarity 29.6%; Pred. No. 6.6e-27;
 Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;
 QY 18 GLYGGQIVAVADTGLDTRNDSSMHEAFRGKITALYALGRTNAN-----DTNGHGTH 71
 Db 22 GYDGGITIGITDID-----ASHPDLOGKV-----LGWDFVNGRSYPYDDHGHTH 70
 QY 72 VAGSVLNGSTN-----KGMAPQANLVFQSIM--DSGGGLGGLPSNLQTLFSQAYSAGARI 125
 Db 71 VASIAAGTGAASNGKYKGMAPGAKLAGIKVLGADGSGSISTIIKGVEMAVDNKDKYGIKV 130
 QY 126 HTNSWGA-----AVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGNGGTISAP 173
 Db 131 INLSGSSQSSDGTALDQAVNAWDA-----GLVVVAAGNSGPNKTYIGSP 178
 QY 174 GTAKNAITVGTATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAPTFILSARSS 233
 Db 179 AAASKVITVGA-----VDKYDVITSFSSRGPTADGRLKPEVAVPAGNWIIAARAS 227
 QY 234 LAPDSSFANHDSKYAYMGTSMTATPVAGNVAQLREHFVKRGITPK--PSLLKAALIA 291
 Db 228 ---GTSMGQPINDDYTAAPGTSMTATPVAGIAALLQ-----AHPSTPDKVKTALIE 277
 QY 292 GA-----ADIGLGPNGNCGWRVTLDKSLNVAIVNNESSLSSTSKA-----TYSFT 338
 Db 278 TADIVKPEIADIAYGA-----GRVNAVYKAIN--YDNYAKLVFTGYVANKGSQTHQFV 328
 QY 339 ATAGKPLKISLVWSDAPASTASVTLVNDLNLVITAPNGTQVYVGNDFTSYNDNWDGRNN 398
 Db 329 ISGASFTVATLYWDNAN-----SDDLILYDPNGNQ--VDYSYTAY-----G 369
 QY 399 VENVFINAPQSGTYTIEVQAYNVVPGPTFSLAIVN 434
 Db 370 FEKVGYNPTDGTWTKVWSYS---GSANYQVDVWS 402

RESULT 14
 US-10-090-624-16
 ; Sequence 16, Application US/10090624
 ; Publication No. US20020132335A1
 ; GENERAL INFORMATION:
 ; APPLICANT: TAKAKURA, Hikaru
 ; APPLICANT: MORISHITA, Mio
 ; APPLICANT: SHIMOJO, Tomoko
 ; APPLICANT: ASADA, Kiyozo
 ; APPLICANT: KATO, Ikunoshin
 ; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE

; FILE REFERENCE: TAKAKURA=6
 ; CURRENT APPLICATION NUMBER: US/10/090,624
 ; CURRENT FILING DATE: 2002-03-06
 ; PRIOR APPLICATION NUMBER: 09/445,472
 ; PRIOR FILING DATE: 1999-12-06
 ; PRIOR APPLICATION NUMBER: 151969/1997
 ; PRIOR FILING DATE: 1997-06-10
 ; NUMBER OF SEQ ID NOS: 33
 ; SOFTWARE: Patent in version 3.0
 ; SEQ ID NO 16
 ; LENGTH: 654
 ; TYPE: PRT
 ; ORGANISM: Pyrococcus furiosus
 US-10-090-624-16

Query Match 18.2%; Score 409; DB 13; Length 654;
 Best Local Similarity 29.6%; Pred. No. 9.1e-27;
 Matches 135; Conservative 60; Mismatches 147; Indels 114; Gaps 19;
 QY 18 GLYGGQIVAVADTGLDTRNDSSMHEAFRGKITALYALGRTNAN-----DTNGHGTH 71
 Db 154 GYDGGITIGITDID-----ASHPDLOGKV-----IGWDFVNGRSYPYDDHGHTH 202
 QY 72 VAGSVLNGSTN-----KGMAPQANLVFQSIM--DSGGGLGGLPSNLQTLFSQAYSAGARI 125
 Db 203 VASIAAGTGAASNGKYKGMAPGAKLAGIKVLGADGSGSISTIIKGVEMAVDNKDKYGIKV 262
 QY 126 HTNSWGA-----AVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGNGGTISAP 173
 Db 263 INLSGSSQSSDGTALDQAVNAWDA-----GLVVVAAGNSGPNKTYIGSP 310
 QY 174 GTAKNAITVGTATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAPTFILSARSS 233
 Db 311 AAASKVITVGA-----VDKYDVITSFSSRGPTADGRLKPEVAVPAGNWIIAARAS 359
 QY 234 LAPDSSFANHDSKYAYMGTSMTATPVAGNVAQLREHFVKRGITPK--PSLLKAALIA 291
 Db 360 ---GTSMGQPINDDYTAAPGTSMTATPVAGIAALLQ-----AHPSTPDKVKTALIE 409
 QY 292 GA-----ADIGLGPNGNCGWRVTLDKSLNVAIVNNESSLSSTSKA-----TYSFT 338
 Db 410 TADIVKPEIADIAYGA-----GRVNAVYKAIN--YDNYAKLVFTGYVANKGSQTHQFV 460
 QY 339 ATAGKPLKISLVWSDAPASTASVTLVNDLNLVITAPNGTQVYVGNDFTSYNDNWDGRNN 398
 Db 461 ISGASFTVATLYWDNAN-----SDDLILYDPNGNQ--VDYSYTAY-----G 501
 QY 399 VENVFINAPQSGTYTIEVQAYNVVPGPTFSLAIVN 434
 Db 502 FEKVGYNPTDGTWTKVWSYS---GSANYQVDVWS 534

RESULT 15
 US-10-112-488-39
 ; Sequence 39, Application US/10112488
 ; Publication No. US20030082746A1
 ; GENERAL INFORMATION:
 ; APPLICANT: KIKUCHI, Yoshiaki
 ; APPLICANT: DATE, Masayo
 ; APPLICANT: UMEZAWA, Yukiko
 ; APPLICANT: YOKOYAMA, Keiichi
 ; APPLICANT: MATSUI, Hiroshi
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING TRANSLUTAMINASE
 ; FILE REFERENCE: 219286USOCONT
 ; CURRENT APPLICATION NUMBER: US/10/112,488
 ; CURRENT FILING DATE: 2002-04-01
 ; PRIOR APPLICATION NUMBER: PCT/JP00/06780
 ; PRIOR FILING DATE: 2000-09-29
 ; PRIOR APPLICATION NUMBER: JP2000-280098
 ; PRIOR FILING DATE: 2000-06-28
 ; PRIOR APPLICATION NUMBER: JP11-280098
 ; PRIOR FILING DATE: 1999-09-30
 ; NUMBER OF SEQ ID NOS: 70

```
/ SOFTWARE: PatentIn version 3.1
/ SEQ ID NO 39
/ LENGTH: 1079
/ TYPE: PRT
/ ORGANISM: Streptomyces albobogrisolus
US-10-112-488-39

Query Match      16.3%; Score 366; DB 14; Length 1079;
Best Local Similarity 31.6%; Pred.No.1.1e-22;
Matches 148; Conservative 55; Mismatches 175; Indels 90; Gaps 20;

QY 3 VAR-----GIVKADVAQS-----SYGLYGGQIIVAVADTGLDTRNDSSMHEAFRG 48
Db 160 VARVWLDGVRKASLDSVGQIGTPKAWAEGYDGKVKI AVLDTGVD-----ATHPDLKG 213
QY 49 KITALYALGRTNANDTNGHGTHTVAGSVLNGS-----TNKGMAPCANLVQSIINDSOGGL 104
Db 214 QVTASKNTTSAPTTCGDVVGHGTHVASIAAGTGAQSKGYKGVAPGAKILNGKVLDDAG-- 271
QY 105 GGLPSNLQTLFQSAGARIHTNSWGAANVNAVGTDTSRNVDDYVRK--NDMTILF--AA 160
Db 272 FGDDSGILAGMEWAAAQAGADIVNMSLG---GMDTPETDPLEAAVDKLSAEKGILFAIAA 327
QY 161 GNEGPNGGTISAPGTAKNAITVGATENLRPSFGSYADNINHVAFSSRGP-TKDGRKXPD 219
Db 328 GNEGFPQ--SIGSPGADSALTVA-----VDDKDKLADFSSGTGPRLGDGAVKPD 374
QY 220 VMAPGTFFILSARSSLAPDSSEFWANHDSKYAYMGGTSMATPIVAGNVQAQLREHFVKNRGIT 279
Db 375 LTAPGVDDITAAKAGNDIAKEVGEKPGAYMTISGTSMATPHVAGAAALLKQOHEP----- 429
QY 280 KPESLLKALITAGAADIGLG-YPNGNQWGRVTLDKSLNVAIVNESSLSL----- 328
Db 430 WKYAEKGLTASTKD---GKYPPEQSGRQVVDKAITQTIVIAEPVSLSPGVQGWPHAD 486
QY 329 ---TSOKATYSFTATAGKPLKISLWSD-----APAS--TTASVTLVNDLNLVITAP-NG 377
Db 487 DXPVTKKLTIRNLGHEDVTLKLTSTATGPKGAAPAGFTLCASTL-----TVFANG 538
QY 378 TOYVGNDFTPSYNDNDGRNNVNFINAPQS----GTYTIEVOAYNV 421
Db 539 TASVDVTADTRLGGAVDGTYSAYVATGAGQSVRTAAAVEREVESYNV 586
```

Search completed: March 18, 2004, 04:12:40
Job time : 47 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: March 18, 2004, 04:07:02 ; Search time 45 Seconds
(without alignments)
2497.480 Million cell updates/sec

Title: US-09-985-689A-1
Perfect score: 2247
Sequence: 1 NDVARGIVKADVAQSSYGLY.....EVQAVNPVGPQTSIAVN 434

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1049977 seqs, 258955339 residues

Total number of hits satisfying chosen parameters: 1049977

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Published Applications AA.*
1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep.*
2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
3: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep.*
6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep.*
14: /cgn2_6/ptodata/2/pubpaa/US10B_PUBCOMB.pep.*
15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep.*
16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2247	100.0	434	10	US-09-985-689A-1
2	2247	100.0	434	15	US-10-385-662-2
3	2191	97.5	434	10	US-09-985-689A-2
4	2143	95.4	434	10	US-09-985-689A-6
5	2125.5	94.6	433	10	US-09-985-689A-7
6	1998.5	88.9	433	10	US-09-985-689A-5
7	1984.5	88.8	433	10	US-09-985-689A-3
8	1987.5	88.5	433	10	US-09-985-689A-4
9	1581.5	70.4	345	14	US-10-336-324-10
10	1581.5	70.4	345	14	US-10-403-105-13
11	452.5	20.1	659	13	US-10-090-624-12
12	414	18.4	412	13	US-10-090-624-1
13	414	18.4	522	13	US-10-090-624-4
14	414	18.4	654	13	US-10-090-624-16
15	366	16.3	1079	14	US-10-112-488-39

16	363.5	16.2	1208	14	US-10-156-761-13251	Sequence 13251, A
17	346.5	15.4	1139	14	US-10-156-761-10856	Sequence 10856, A
18	338	15.0	1237	14	US-10-314-657-4	Sequence 4, Appl
19	306.5	13.6	1519	15	US-10-084-846A-114	Sequence 114, Appl
20	306.5	13.6	19725	15	US-10-084-846A-4	Sequence 4, Appl
21	304.5	13.6	1398	13	US-10-090-624-6	Sequence 6, Appl
22	283	12.6	580	10	US-09-927-827-55	Sequence 55, Appl
23	280.5	12.5	595	10	US-09-927-827-59	Sequence 59, Appl
24	276	12.3	418	9	US-09-966-921A-2	Sequence 2, Appl
25	270	12.0	1101	14	US-10-156-761-12934	Sequence 12934, A
26	258	11.5	663	12	US-10-424-593-25571	Sequence 25571, A
27	251	11.2	280	14	US-10-209-813-2	Sequence 2, Appl
28	248.5	11.1	397	10	US-09-779-334A-5	Sequence 5, Appl
29	248.5	11.1	368	12	US-10-344-231-3	Sequence 3, Appl
30	247	11.0	271	10	US-09-813-408-2	Sequence 2, Appl
31	246.5	11.0	379	10	US-09-813-408-6	Sequence 6, Appl
32	246	10.9	271	14	US-10-242-549-56	Sequence 56, Appl
33	244	10.9	271	14	US-10-242-549-46	Sequence 46, Appl
34	244	10.9	271	14	US-10-242-549-48	Sequence 48, Appl
35	244	10.9	271	14	US-10-242-549-50	Sequence 50, Appl
36	244	10.9	271	14	US-10-242-549-52	Sequence 52, Appl
37	244	10.9	271	14	US-10-242-549-54	Sequence 54, Appl
38	244	10.9	271	14	US-10-242-549-60	Sequence 60, Appl
39	242.5	10.8	627	10	US-09-927-827-60	Sequence 60, Appl
40	242	10.8	271	14	US-10-242-549-44	Sequence 44, Appl
41	242	10.8	271	14	US-10-242-549-58	Sequence 58, Appl
42	240	10.7	269	8	US-08-322-678-10	Sequence 10, Appl
43	240	10.7	269	9	US-09-837-235-16	Sequence 16, Appl
44	240	10.7	269	9	US-09-060-854B-6	Sequence 6, Appl
45	240	10.7	269	9	US-09-975-139-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-09-985-689A-1
; Sequence 1, Application US/0985689A
; Publication No. US20030022351A1
; GENERAL INFORMATION:
; APPLICANT: HATADA, YUJI
; APPLICANT: OGAWA, AKINORI
; APPLICANT: KAGEYAMA, YASUSHI
; APPLICANT: SATO, TSUYOSHI
; APPLICANT: ARAKI, HIROYUKI
; APPLICANT: SUMITOMO, NORIYUKI
; APPLICANT: OKUDA, MITSUOSHI
; APPLICANT: SAEKI, KATSUHIISA
; TITLE OF INVENTION: Alkaline proteases
; FILE REFERENCE: 215483USO
; CURRENT APPLICATION NUMBER: US/09/985,689A
; CURRENT FILING DATE: 2002-07-01
; PRIOR APPLICATION NUMBER: JP P2000-355166
; PRIOR FILING DATE: 2000-11-22
; PRIOR APPLICATION NUMBER: JP P2001-114048
; PRIOR FILING DATE: 2001-04-12
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 434
; TYPE: PRT
; ORGANISM: Bacillus sp.
US-09-985-689A-1

Query Match 100.0%; Score 2247; DB 10; Length 434;
Best Local Similarity 100.0%; Pred. No. 8, 2e-188;
Matches 434; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 NDVARGIVKADVAQSSYGLYCGQGIIVADVDTGLTGNDSSMHEAFRGKITALYALGRTN 60
DB 1 NDVARGIVKADVAQSSYGLYCGQGIIVADVDTGLTGNDSSMHEAFRGKITALYALGRTN 60
QY 61 NANDTNGHGTHTVAGSVLGNSTNGKMAPQANLVFQSIMDSGGGLGLPSNLQTLFQSAYS 120

Db 61 NNDTNGHGHVAGSVLNGSTNGKMGAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
 Qy 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Db 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Qy 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240
 Qy 241 WANHDSKYAYMGSTSMATPIVAGNVAQLREHFVXRGITPKPSLLKAALIAAGADIIGLY 300
 Db 241 WANHDSKYAYMGSTSMATPIVAGNVAQLREHFVXRGITPKPSLLKAALIAAGADIIGLY 300
 Qy 301 PNGNGQWGRVTLDKSLNVAAYVNESSLSSTQKATYSFTATAGPKLKISLVMSDAPASTTA 360
 Db 301 PNGNGQWGRVTLDKSLNVAAYVNESSLSSTQKATYSFTATAGPKLKISLVMSDAPASTTA 360
 Qy 361 SVTLVNDLVLITAPNGTQYVGNDFTPYNDNDGRNNVENVFINAPQSGTYTIEVQAYN 420
 Db 361 SVTLVNDLVLITAPNGTQYVGNDFTPYNDNDGRNNVENVFINAPQSGTYTIEVQAYN 420
 Qy 421 VPVGPTQTFSLAIVN 434
 Db 421 VPVGPTQTFSLAIVN 434

RESULT 2

US-10-385-662-2
 ; Sequence 2, Application US/10385662
 ; Publication No. US20040002432A1
 ; GENERAL INFORMATION:
 ; APPLICANT: HATADA, YUJI
 ; APPLICANT: OGAWA, AKINORI
 ; APPLICANT: KAGEYAMA, YASUSHI
 ; APPLICANT: SATO, TSUYOSHI
 ; APPLICANT: ARAKI, HIROYUKI
 ; APPLICANT: SUMITOMO, NOBUYUKI
 ; APPLICANT: OKUDA, MITSUYOSHI
 ; APPLICANT: SAEKI, KATSUHIISA
 ; APPLICANT: KOBAYASHI, TOHRU
 ; APPLICANT: NOMURA, MASAFUMI
 ; TITLE OF INVENTION: Alkaline protease
 ; FILE REFERENCE: 234938US0
 ; CURRENT APPLICATION NUMBER: US/10/385,662
 ; PRIOR FILING DATE: 2003-03-12
 ; PRIOR APPLICATION NUMBER: JP 2002-081428
 ; PRIOR FILING DATE: 2002-03-22
 ; PRIOR APPLICATION NUMBER: JP 2002-165987
 ; PRIOR FILING DATE: 2002-06-06
 ; PRIOR APPLICATION NUMBER: JP 2002-304230
 ; PRIOR FILING DATE: 2002-10-18
 ; PRIOR APPLICATION NUMBER: JP 2002-304231
 ; PRIOR FILING DATE: 2002-10-18
 ; NUMBER OF SEQ ID NOS: 20
 ; SOFTWARE: Patent in version 3.1
 ; SEQ ID NO 2
 ; LENGTH: 434
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp. KSM-KP43
 US-10-385-662-2

Query Match 100.0%; Score 2247; DB 15; Length 434;
 Best Local Similarity 100.0%; Pred. No. 8.2e-188;
 Matches 434; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTGRNDSNHEAFRGKITALVALGRTN 60
 Db 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTGRNDSNHEAFRGKITALVALGRTN 60
 Qy 61 NNDTNGHGHVAGSVLNGSTNGKMGAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
 Db 61 NNDTNGHGHVAGSVLNGSTNGKMGAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120

Qy 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Db 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Qy 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240
 Qy 241 WANHDSKYAYMGSTSMATPIVAGNVAQLREHFVXRGITPKPSLLKAALIAAGADIIGLY 300
 Db 241 WANHDSKYAYMGSTSMATPIVAGNVAQLREHFVXRGITPKPSLLKAALIAAGADIIGLY 300
 Qy 301 PNGNGQWGRVTLDKSLNVAAYVNESSLSSTQKATYSFTATAGPKLKISLVMSDAPASTTA 360
 Db 301 PNGNGQWGRVTLDKSLNVAAYVNESSLSSTQKATYSFTATAGPKLKISLVMSDAPASTTA 360
 Qy 361 SVTLVNDLVLITAPNGTQYVGNDFTPYNDNDGRNNVENVFINAPQSGTYTIEVQAYN 420
 Db 361 SVTLVNDLVLITAPNGTQYVGNDFTPYNDNDGRNNVENVFINAPQSGTYTIEVQAYN 420
 Qy 421 VPVGPTQTFSLAIVN 434
 Db 421 VPVGPTQTFSLAIVN 434

RESULT 3

US-09-985-689A-2
 ; Sequence 2, Application US/09985689A
 ; Publication No. US20030022351A1
 ; GENERAL INFORMATION:
 ; APPLICANT: HATADA, YUJI
 ; APPLICANT: OGAWA, AKINORI
 ; APPLICANT: KAGEYAMA, YASUSHI
 ; APPLICANT: SATO, TSUYOSHI
 ; APPLICANT: ARAKI, HIROYUKI
 ; APPLICANT: SUMITOMO, NOBUYUKI
 ; APPLICANT: OKUDA, MITSUYOSHI
 ; APPLICANT: SAEKI, KATSUHIISA
 ; TITLE OF INVENTION: Alkaline proteases
 ; FILE REFERENCE: 215483US0
 ; CURRENT APPLICATION NUMBER: US/09/985,689A
 ; CURRENT FILING DATE: 2002-07-01
 ; PRIOR APPLICATION NUMBER: JP P2000-355166
 ; PRIOR FILING DATE: 2000-11-22
 ; PRIOR APPLICATION NUMBER: JP P2001-114048
 ; PRIOR FILING DATE: 2001-04-12
 ; NUMBER OF SEQ ID NOS: 7
 ; SOFTWARE: Patent in version 3.1
 ; SEQ ID NO 2
 ; LENGTH: 434
 ; TYPE: PRT
 ; ORGANISM: Bacillus sp.
 US-09-985-689A-2

Query Match 97.5%; Score 2191; DB 10; Length 434;
 Best Local Similarity 96.5%; Pred. No. 6.5e-183;
 Matches 419; Conservative 13; Mismatches 2; Indels 0; Gaps 0;

Qy 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTGRNDSNHEAFRGKITALVALGRTN 60
 Db 1 NDVARGIVKADVAQSSYGLYGQGIIVAVADTGLDTGRNDSNHEAFRGKITALVALGRTN 60
 Qy 61 NNDTNGHGHVAGSVLNGSTNGKMGAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
 Db 61 NNDTNGHGHVAGSVLNGSTNGKMGAPQANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
 Qy 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Db 121 AGARIHTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGNGGTTISAPGTAKNAI 180
 Qy 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240
 Db 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAQPTFILSARSSSLAPDSSF 240

QY 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNQGWGRVTLDKSLNVAYNSSSLTSQKATYFTTAGKPKLSLWSDAPASTTA 360
DB 301 PNGNQGWGRVTLDKSLNVAYNSSSLTSQKATYFTTAGKPKLSLWSDAPASTTA 360
QY 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
QY 421 VPVGPOTFSLAIVN 434
DB 421 VPVGPOTFSLAIVN 434

RESULT 4

US-09-985-689A-6

; Sequence 6, Application US/09985689A

; Publication No. US20030022351A1

; GENERAL INFORMATION:

; APPLICANT: HATADA, YUJI

; APPLICANT: OGAWA, AKINORI

; APPLICANT: KAGEYAMA, YASUSHI

; APPLICANT: SATO, TSUYOSHI

; APPLICANT: ARAKI, HIROYUKI

; APPLICANT: SUMITOMO, NOBUYUKI

; APPLICANT: OKUDA, MITSUYOSHI

; APPLICANT: SAEKI, KATSUHISA

; TITLE OF INVENTION: Alkaline proteases

; FILE REFERENCE: 215483US0

; CURRENT APPLICATION NUMBER: US/09/985,689A

; CURRENT FILING DATE: 2002-07-01

; PRIOR APPLICATION NUMBER: JP P2000-355166

; PRIOR FILING DATE: 2000-11-22

; PRIOR APPLICATION NUMBER: JP P2001-114048

; PRIOR FILING DATE: 2001-04-12

; NUMBER OF SEQ ID NOS: 7

; SOFTWARE: Patentin version 3.1

; SEQ ID NO 6

; LENGTH: 434

; TYPE: PRT

; ORGANISM: Bacillus sp.

US-09-985-689A-6

Query Match 95.4%; Score 2143; DB 10; Length 434;
Best Local Similarity 93.5%; Pred. No. 1e-178; Indels 0; Gaps 0;
Matches 406; Conservative 19; Mismatches 9;

QY 1 NDVARGIVKADVAQSSVGLYGQCIIVAVADTGLDTRNDSSMHEAPRGKITAIYALGRIN 60
DB 1 NDVARGIVKADVAQSSVGLYGQCIIVAVADTGLDTRNDSSMHEAPRGKITAIYALGRIN 60
QY 61 NANTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
DB 61 NANTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHNSWGAAVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
DB 121 AGARIHNSWGAPVNGAYTTDSRNVDDYVRKNDMAVLFPAAGNEGPNNGGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGPTILSARSLAPDSF 240
DB 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGPTILSARSLAPDSF 240
QY 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNQGWGRVTLDKSLNVAYNSSSLTSQKATYFTTAGKPKLSLWSDAPASTTA 360

DB 301 PSGNQGWGRVTLDKSLNVAFVNFTSSLSINQKATYFTTAGKPKLSLWSDAPASTTA 360
QY 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
QY 421 VPVGPOTFSLAIVN 434
DB 421 VPVGPOTFSLAIVN 434

RESULT 5

US-09-985-689A-7

; Sequence 7, Application US/09985689A

; Publication No. US20030022351A1

; GENERAL INFORMATION:

; APPLICANT: HATADA, YUJI

; APPLICANT: OGAWA, AKINORI

; APPLICANT: KAGEYAMA, YASUSHI

; APPLICANT: SATO, TSUYOSHI

; APPLICANT: ARAKI, HIROYUKI

; APPLICANT: SUMITOMO, NOBUYUKI

; APPLICANT: OKUDA, MITSUYOSHI

; APPLICANT: SAEKI, KATSUHISA

; TITLE OF INVENTION: Alkaline proteases

; FILE REFERENCE: 215483US0

; CURRENT APPLICATION NUMBER: US/09/985,689A

; CURRENT FILING DATE: 2002-07-01

; PRIOR APPLICATION NUMBER: JP P2000-355166

; PRIOR FILING DATE: 2000-11-22

; PRIOR APPLICATION NUMBER: JP P2001-114048

; PRIOR FILING DATE: 2001-04-12

; NUMBER OF SEQ ID NOS: 7

; SOFTWARE: Patentin version 3.1

; SEQ ID NO 7

; LENGTH: 433

; TYPE: PRT

; ORGANISM: Bacillus sp.

US-09-985-689A-7

Query Match 94.6%; Score 2125,5; DB 10; Length 433;
Best Local Similarity 93.5%; Pred. No. 3.4e-177; Indels 1; Gaps 1;
Matches 406; Conservative 19; Mismatches 8;

QY 1 NDVARGIVKADVAQSSVGLYGQCIIVAVADTGLDTRNDSSMHEAPRGKITAIYALGRIN 60
DB 1 NDVARGIVKADVAQSSVGLYGQCIIVAVADTGLDTRNDSSMHEAPRGKITAIYALGRIN 60
QY 61 NANTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
DB 61 NANTNGHGHVAGSVLNGSTNKGMAPOANLVFQSIMDSGGGLGGLPSNLQTLFSQAYS 120
QY 121 AGARIHNSWGAAVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
DB 121 AGARIHNSWGAPVNGAYTTDSRNVDDYVRKNDMTILFAAGNEGPNNGGTISAPGTAKNAI 180
QY 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGPTILSARSLAPDSF 240
DB 181 TVGATENLRPSFGSYADNINHVAQFSSRGPTKDGRIKPDVMAFGPTILSARSLAPDSF 240
QY 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
DB 241 WANHDSKYAYMGTSMTPIVAGNVAQLREHFVKNRGITPKPSLLKAALIAGAADIGLY 300
QY 301 PNGNQGWGRVTLDKSLNVAYNSSSLTSQKATYFTTAGKPKLSLWSDAPASTTA 360
DB 301 PNGNQGWGRVTLDKSLNVAFVNFTSSLSINQKATYFTTAGKPKLSLWSDAPASTTA 360
QY 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
DB 361 SVTLVNDLVLITAPNGTQVGNDFTPYNDNWDGRNNVNFVFINAPQSGTYTIEVQAYN 420
QY 421 VPVGPOTFSLAIVN 434

Db 148 AGAHIHNSGAPVNGAYTTDSRNVDYVRKNDMTILFAAGNEGSGTISAPGTAKNAI 207
 QY 181 TVGATENLRPFSGVADNINHAQFSSRGPTKOGRIKPDVMAPTFILLSARSSLPDSSF 240
 Db 208 TVGATENLRPFSGVADNINHAQFSSRGPTDGRKIPDVAPTYILSARSSLPDSSF 267
 QY 241 WANHDSKYAYMGTSMATPIVAGNVAQLREHFVKNRGITPKPSLLKALIAAGADIGLY 300
 Db 268 WANHDSKYAYMGTSMATPIVAGNVAQLREHFVKNRGITPKPSLLKALIAAGADVGLGF 327
 QY 301 PNGNOGGRVTLDKSLNV 318
 Db 328 PNGNOGGRVTLDKSLNV 345
 RESULT 11
 US-10-090-624-12
 ; Sequence 12, Application US/10090624
 ; Publication No. US20020132335A1
 ; GENERAL INFORMATION:
 ; APPLICANT: TAKAKURA, Hikaru
 ; APPLICANT: MORISHITA, Mio
 ; APPLICANT: SHIMOJO, Tomoko
 ; APPLICANT: ASADA, Kiyozo
 ; APPLICANT: KATO, Ikunoshin
 ; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
 ; FILE REFERENCE: TAKAKURA-6
 ; CURRENT APPLICATION NUMBER: US/10/090,624
 ; PRIOR FILING DATE: 2002-03-06
 ; PRIOR APPLICATION NUMBER: 09/445,472
 ; PRIOR FILING DATE: 1999-12-06
 ; PRIOR APPLICATION NUMBER: 151969/1997
 ; PRIOR FILING DATE: 1997-06-10
 ; NUMBER OF SEQ ID NOS: 33
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 12
 ; LENGTH: 659
 ; TYPE: PRT
 ; ORGANISM: Thermococcus celer
 US-10-090-624-12

Query Match 20.1%; Score 452.5; DB 13; Length 659;
 Best Local Similarity 30.1%; Pred. No. 1.3e-30;
 Matches 138; Conservative 67; Mismatches 153; Indels 101; Gaps 18;
 QY 8 VKADVAQSSYGLYGQGVAVADTGLDTCRNDSSHEAFRGKITALLY-ALGRTNNANDTN 66
 Db 145 IGADFTVNSLGYDGGVVVAIVDTGIDAN-----HPDLKGVIGWYDAVNGRSTPYDDQ 198
 QY 67 GGHTHVAGSVLNGSTNK---GMAPOANLVFQSIM---DSGGGLGLPSNLQTLFSQAYS 121
 Db 199 GHGTHVAGSVLNGSTNK---GMAPOANLVFQSIM---DSGGGLGLPSNLQTLFSQAYS 121
 QY 122 GARI-----HTNSWGAANGAYTTDSRNVDYVRKNDMTILFAAGNEGSGT 169
 Db 259 GIRVINLSLGSQSSDGTSLSQAVNNAWDA-----GLVVCVAGNSGPNYTT 306
 QY 170 ISAPGTAKNAITVGTATENLRPFSGVADNINHAQFSSRGPTKOGRIKPDVMAPTFILLS 229
 Db 307 VGSPAAASKVITVGA-----VDSNDNIAFSFSSRGPTADGRKPEVAPGVQDIIA 355
 QY 230 ARSSLAPDSSFWANHDSKYAYMGTSMATPIVAG-NVAQLREHFVKNRGITPK--PSLLK 286
 Db 356 PRAS---GTSMTGTPINDYYTKASGTSMATPHVSGVGAIILOAH-----PSWTPDKVK 404
 QY 287 AALIAAG-----ADTGLGPNNGOGGRVTLDKSL---NVAYVNESSLSSTSKATY 335
 Db 405 TALIETADIVAPKEIADIAIGA-----GRNVVYKAIKYDDYAKLFTGTSVADKGSATH 457
 QY 336 SFTATAGPLKISLVMSDAPASTTASVTLVNDLDDIVITAPNGTQYVGNDFTSYNDNDWDG 395
 Db 458 TFDVSGATFVATLWD-----TGSSDIDLVLDPNGNE-VDYSYATY-----G 500

QY 396 RNNVENFINAQSGTYTIEVOAYNVVPGPOTFSLAIVN 434
 Db 501 --CFEKVGYNFTAGTWTWKVVSYK--GAANYQVDVVS 534
 RESULT 12
 US-10-090-624-1
 ; Sequence 1, Application US/10090624
 ; Publication No. US20020132335A1
 ; GENERAL INFORMATION:
 ; APPLICANT: TAKAKURA, Hikaru
 ; APPLICANT: MORISHITA, Mio
 ; APPLICANT: SHIMOJO, Tomoko
 ; APPLICANT: ASADA, Kiyozo
 ; APPLICANT: KATO, Ikunoshin
 ; TITLE OF INVENTION: SYSTEM FOR EXPRESSING HYPERTHERMOSTABLE
 ; FILE REFERENCE: TAKAKURA-6
 ; CURRENT APPLICATION NUMBER: US/10/090,624
 ; CURRENT FILING DATE: 2002-03-06
 ; PRIOR FILING DATE: 1999-12-06
 ; PRIOR APPLICATION NUMBER: 151969/1997
 ; PRIOR FILING DATE: 1997-06-10
 ; NUMBER OF SEQ ID NOS: 33
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 1
 ; LENGTH: 412
 ; TYPE: PRT
 ; ORGANISM: Pyrococcus furiosus
 US-10-090-624-1

Query Match 18.4%; Score 414; DB 13; Length 412;
 Best Local Similarity 29.8%; Pred. No. 1.5e-27;
 Matches 136; Conservative 59; Mismatches 147; Indels 114; Gaps 19;
 QY 18 GLYGQGVAVADTGLDTCRNDSSHEAFRGKITALLYALGRTNNAN-----DTNGHGH 71
 Db 22 GYDGGGTTIGITDGTID-----ASHPDLQGRV-----IGWDFVNGRSYPYDDRHGH 70
 QY 72 VAGSVLNGSTN---KGMAPQANLVFQSIM---DSGGGLGLPSNLQTLFSQAYSAGARI 125
 Db 71 VASIAAGTGAASNGKVKGMAPKAGIKVLGADSGSISITIKGVWAVDNKDKYGLKV 130
 QY 126 HTNSWGA-----AVNGAYTTDSRNVDYVRKNDMTILFAAGNEGSGTISAP 173
 Db 131 INLSLGSQSSDGTSLSQAVNNAWDA-----GLVVCVAGNSGPNYTTGSP 178
 QY 174 GTAKNAITVGTATENLRPFSGVADNINHAQFSSRGPTKOGRIKPDVMAPTFILLSARSS 233
 Db 179 AAASKVITVGA-----VDKVDVITSSRGPTADGRKPEVAPGVQDIIA 227
 QY 234 LAPDSSFWANHDSKYAYMGTSMATPIVAGNVAQLREHFVKNRGITPK--PSLLKALIA 291
 Db 228 --GTSMTGTPINDYYTKASGTSMATPHVAGIAALLQ-----AHPSTWPKVKTALIE 277
 QY 292 GA-----ADTGLGPNNGOGGRVTLDKSLVAYVNESSLSSTSKA-----TYSFT 338
 Db 278 TADIVKPDSDIADIAIGA-----GRVNAYKAIN--YDNAYKLVFTGYVANGSOTHQV 328
 QY 339 ATAGKPLKISLVMSDAPASTTASVTLVNDLDDIVITAPNGTQYVGNDFTSYNDNDWDGRN 398
 Db 329 ISGASFTVATLWDNAN-----SDLDLYLDPNGNQ--VDYSYATY-----G 369
 QY 399 RNNVENFINAQSGTYTIEVOAYNVVPGPOTFSLAIVN 434
 Db 370 FEKVGYNFTAGTWTWKVVSYS---GSANYQVDVVS 402
 RESULT 13
 US-10-090-624-4
 ; Sequence 4, Application US/10090624
 ; Publication No. US20020132335A1
 ; GENERAL INFORMATION:

```
Query Match      18.4%; Score 414; DB 13; Length 654;
Best Local Similarity 29.8%; Pred.No. 2.9e-27;
Matches 136; Conservative 59; Mismatches 147; Indels 114; Gaps 19;

QY 18 GLYGQGQIVAVADGLPTGRNDSMEAFRGKITALVALGRTNNAN-----DTNGHGH 71
          ||| | :||| :||| :||| :||| :||| :||| :||| :||| :|||
Db 154 GDYGSGITIGIIDTGD-----ASHPDLOGKY-----IGWDFVNGRSYPDYDDHGHT 202

VY 72 VAGSVI LGGNSGN-----KGMAPOANLNFOSITM-----DSGGGLGLGPSNLQTLFSDAYSAGARI 125
```

Query Match

Best Local Similarity 29.8%; Pred. No. 2.9e-27;
Matches 136; Conservative 59; Mismatches 147;
Indels 114; Gaps 19;

18 GLYGQGIIVADTGLTGRNDSMHEAFRGKITALYALGRTNNAN-----DTNGHGTH 71

b
154 GYDGSITIGITDID-----ASHPLQGV-----IGWVDFVNGRSPYDDHGHGTH 202

72 VAGSVTJGNGSTN---KGMAPQANLVFQSIM--DSGGGLGGLPSNLTQLFSQAYSAGARI 125

b
203 VASIACTGAASNGKYGMPGAKLAGIKVLGADSGSISIIKGYENAVDNKDYGIKV 262

126	HTNSWGA-----	AVNGAYTTDSRNVDDVVRKNDWTLFPAAGNEGPNGGTISAP	179
263	TNYSTAGSSGSCGCTAT	CGATVANA	310

174 GTAKNA ITTVGATENI PDSGSGSVADNINHVAFQSSGGPTKQGEIKPDWAPCTEII SARSS 233
263 INLSUGSSQSSDGLIDLSQAVNNHWDH-----GSVVVVWAKAGSGGNALLIGSF 311

311 AAASKVITVGA-----VDKYDVTTSFSRSGPTADGRLKPEVWAPGNWIIAARAS 359

234 LAPDSFWANHDSKYAYMGTSMATPIVAGNVAQIREHFVKRGITPK--PSLLKAALIA 291

b 360 ---GTSNGQPINDYYTAAFGTSMATPHVAGIAALLQ-----AHPSWTPDKVKTALIE 409

292 GA-----ADIGLGYNGNGQGRVTLDKSLNVAIVNBSSSLTSQKA-----TVSFT 338

b
410 TADIVKPDEIAIDJAYGA-----GRVNAYKAIN--YDNYAKLVFTGYGVANKGSQTHQFV 460

339 ATAGKPLKISLWSDAPASATTASVTLVNDLVLVIAPNGTQVGVNDFTSPYNDNWGDGNN 398

b
461 ISGASFVATLWDNAN-----SDLDLYLYDPNGNQ-VDYSTAYV-----G 501

399 VENVF¹INAPQSGT²ITIEVQAINVEVGGPQTFSLATVN 434
502 PPKAVGVN¹PD²DTMTITKIVSVS³--GSANVQVMIVIS 534

С 1990 ГОДА ПОСЛЕДОВАТЕЛЬНО ЗАКЛЮЧЕНЫ СЛЕДУЮЩИЕ ДОГОВОРЫ:

RESULT 15
S-10-112-488-39

Sequence 39, Application US/10112488
Publication No. US20030082746A1

GENERAL INFORMATION:
APPLICANT: KIKUCHI, Yoshimi
APPLICANT: DATE: Macau

APPLICANT: DARE, Masayo
APPLICANT: UMEZAWA, Yukiko
APPLICANT: YOKOYAMA, Keiichi

APPLICANT: MATSUI, Hiroshi
TITLE OF INVENTION: PROCESS FOR PRODUCING TRANSGLUTAMINASE

FILE REFERENCE: 219286US0CONT
CURRENT APPLICATION NUMBER: US/10/112,488

CURRENT FILING DATE: 2002-04-01
PRIOR APPLICATION NUMBER: PCT/JP00/06780
PRIOR FILING DATE: 2000-08-28

PRIOR FILING DATE: 2000-09-29
 PRIOR APPLICATION NUMBER: JP2000-280098
 PRIOR FILING DATE: 2000-06-28

PRIOR APPLICATION NUMBER: JP11-280098
PRIOR FILING DATE: 1999-09-30

NUMBER OF SEQ ID NOS: 70

```
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 39
; LENGTH: 1079
; TYPE: PRT
; ORGANISM: Streptomyces albogriseolus
US-10-112-488-39

Query Match      16.3%; Score 366; DB 14; Length 1079;
Best Local Similarity 31.8%; Pred. No. 9.4e-23;
Matches 148; Conservative 55; Mismatches 175; Indels 90; Gaps 20;

QY      3 VAR-----GIVKADVAQS-----SYGLYQQQIVAVADTGLDGRNDSMSHEAPRG 48
Db      160 VARWLDGVKASLDTSVGQIGTPKAWEGYDGKVKI AVLDTGVD-----ATHPDLKG 213
QY      49 KITALYALGRTNNTANGHTGVAGSVLNGS-----TNKGWAPQANLVFQSIMDSGGGL 104
Db      214 QVTASKNFTSAPTTGVDVGHGTHVASIAAGTGAQSGTYKGVAPGAKILNGKVLDDAG-- 271
QY      105 GGLPSNLQTLFSAQVSAGARIHTNSWGAAVNGAYTTDSRNVDYVRK--NDMTILF--AA 160
Db      272 FGDSGILAGMEWAAAGADIWNLSG-----GMDTPETDPLEAAVDKLSAEKGILFAIAA 327
QY      161 GNEGPNGGTISAPGTAKNAITVGCATENLRPSFGSYADNINHVACQSSROP-TKDGEIKPD 219
Db      328 GNEGPO--SIGSPGSADSALTVGA-----VDDKDKLADFSSTGPRLGCGAVKPD 374
QY      220 VMAPGTFILSARSLAPDSFSAWHDHSKYAYMGGTSMAATPIVAGNVQAQLREHFVKNRGIT 279
Db      375 LTAFGVDTIATSAKGNIDIAKEVGEKPGAYMTISGTSMAATPHVAGAAALLKQCHPE----- 429
QY      280 PKPSLLKAALIAGAADIGIG- YENGQGWGRVTLDKSLNVAYVNESSLS----- 328
Db      430 WKYAEKLGALTASTKD---GKYTPFEGGGRVQVDKAITQTVIAEPVLSLFGVQOMPHAD 486
QY      329 ---TSOKATYSFTATAGKPKIKISLVMSD-----APAS--TTASVTLVNDLVLVITAP-NG 377
Db      487 DKPTVKLTLYRNLTGTEVDILKLTSTATGPKGKAAPAGFTLGASTL-----TVPANG 538
QY      378 TQYVGNDFTSFYNDNWDGRNNVENFINAPQS-----GTYTIEVQAINV 421
Db      539 TASVDVTADTRLGGAVDGTYSAYVATGAGQSVRTAAAVEREVESYNV 586
```

Search completed: March 18, 2004, 04:11:41
Job time : 46 secs